ECHNOLOGY DEPT.

First Copy

Air Conditioning & REFRIGERATION NEWS

AN INTERNATIONAL INSTITUTION ★ SUBSCRIBERS ALL OVER THE WORLD ★

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The Newspaper of the Industry
Issued Every Wednesday at Detroit, Michigan

MAY 7, 1941

Single Copy—20 Cents. $4.00 Per Year
Vol. 33, No. 1, Serial No. 633. Established 1926

Written to be Read on Arrival

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MAY 7 - 1941
DETROIT

Frigidaire Tops '40 Advertisers Of Refrigerators

G-E Is Close Second as Total Outlay Shows Gain Over 1939

DETROIT—Frigidaire made the biggest expenditure for household refrigerator magazine advertising last year with an outlay of $414,278, just barely topping the $403,615 spent by General Electric Co., according to figures compiled in a recent survey.

Ten manufacturers of household mechanical refrigerators spent a total of $1,938,666 in magazine advertising, compared with the $1,591,056 spent in periodicals in 1939.

Last year the positions of the two leaders were reversed, with General Electric being the leading spender by a close margin.

Third place in refrigerator magazine spending in 1940 went to the Servel Electrolux sales division of

(Concluded on Page 4, Column 3)

Gale Announces Tray Plan & Prices

GALESBURG, Ill.—Effective May 1, Gale Products is equipping all its 1941 refrigerator models with a full complement of ice trays, using "free cube" latex rubber trays as a substitute for the aluminum trays discontinued under OPM order.

All models normally equipped with four ice trays now will carry two aluminum and two rubber trays, and six-tray models will carry two aluminum and four rubber trays. Whenever possible, units will be shipped with a full complement of trays. In case of a shortage, however, a certificate will be placed in the ice compartment which the buyer can return to the factory and have the substitute trays forwarded directly to him.

Price schedule on Gale models, also effective May 1, is as follows: GC-424, $104.95; GR-650, $104.95; GR-652, $124.95; GC-654, $139.95; GC-656, $154.95; GS-658, $174.95; GC-884, $194.95. Recent changes in the models include addition of a refrigerated shelf to the evaporator

(Concluded on Page 16, Column 4)

Cincinnati Section Host at May 27 ASRE Meeting

CINCINNATI—New problems and opportunities arising in the refrigeration industry in connection with the defense program will receive special attention at the Twenty-Eighth spring meeting of American Society of Refrigerating Engineers, which opens May 27 at the Gibson hotel here. Two new sections of the Society—groups in Kansas City and Cleveland—will receive charters and official recognition at this meeting, and a record attendance for A.S.R.E. summer conventions is expected.

The Cincinnati committee of hosts, under R. H. Money, chairman of the section, has arranged an attractive schedule of social events, including a Family Party with amateur entertainment on Tuesday evening, May 27, a boat ride and barbecue dinner at Coney Island on Wednesday evening, and the Society dinner-dance on Thursday at the Hyde Park Country Club.

Annual A.S.R.E. golf tournament will be played at the same club on Wednesday and Thursday.

Members of the Cincinnati entertainment committee, in addition to

(Concluded on Page 4, Column 5)

Flags Replace Trays as Dealer Appeals To Buyers' Patriotism

HILLSDALE, Mich.—H. G. Bogart, General Electric dealer here, gets around the temporary shortage of ice trays with new refrigerator models by reminding buyers that this sacrifice is part of their contribution to the national defense program.

In his 6-foot models, for example, which are delivered with two ice trays instead of the usual four, Mr. Bogart inserts in the vacant ice tray space a small card, to which is attached an American flag, and reading as follows:

"We are instructed by the United States Government to deliver not more than two aluminum ice trays with any 1941 refrigerator.

"This is part of your contribution to the Defense Program.

"The General Electric Co. will later furnish you with substitute trays of some other material at no cost to you."

REA Will Offer Refrigerator at 'Farmer's Price'

Government Agency To Finance Sales To REA Power Users

WASHINGTON, D. C.—The Rural Electrification Administration late last month announced a specially designed "REA Co-op Model" refrigerator which will be distributed to farm families by REA-financed systems under a new financing plan.

Loans for refrigerator purchases will be made usually to the cooperative or power district which built and operates the power system. The systems will use these funds to finance refrigerator purchases by their individual members. The individual buyers will pay simple interest at a rate of no higher than 6%, and repayment may be spread over five years.

Stewart-Warner Corp. will make the "REA Co-op Model" which is designed for farm use. It is available in two sizes, one of 6.5-cu. ft. capacity and the other of 8.4-cu. ft. capacity. Each size is a standard refrigerator, each has a hermetically sealed compressor and an extruded aluminum evaporator. Insulation is "an ample amount of a standard commercial asbestos product," according to an REA bulletin on the subject.

The price of these refrigerators, which will be sold to REA system

(Concluded on Page 4, Column 5)

Warns Dealers To Put Checkrein on Long Contracts

BRIDGEPORT, Conn.—A plea to distributors to do all they can to encourage a sound and somewhat tighter policy on instalment sales under present conditions has been issued in a letter by C. G. Smith, manager, credits and collections department of the General Electric Co.

"In view of the rapid change in conditions," says Mr. Smith's letter, "we feel that we should strongly recommend that sales be made on more conservative terms in recognition of the recession, whether it be great or small, which in all probability will follow this period of prosperity."

Complete text of Mr. Smith's letter was as follows:

Appliance & Merchandise Department
General Electric Co.
Bridgeport, Conn.

"Sirs:

"As we progress further into the selling season it becomes apparent that general business conditions are

(Concluded on Page 16, Column 1)

G-E Ups Plant Workers Pay 10 Cents an Hour

NEW YORK CITY—Wage increase of 10 cents an hour for factory workers in major plants of General Electric Co. has been announced in a joint statement issued by G-E and the United Electrical, Radio & Machine Workers of America (CIO).

Thiele Vice President Of Kold-Hold Co.

LANSING, Mich.—E. A. Thiele has been elected vice president in charge of sales and sales promotion for Kold-Hold Mfg. Co. here.

March Refrigerator Sales To Dealers Total 454,000 Units

Manufacturers' Volume Breaks All Records For One Month

DETROIT—Passing by 55,000 units the highest monthly total ever recorded in the industry's history, world shipments of household electric refrigerators during March hit the staggering figure of 454,000 units, bringing the total for the first quarter of 1941 to approximately 1,202,000 units, according to estimates by AIR CONDITIONING & REFRIGERATION NEWS.

Previous high monthly total for the industry was established in May of last year, when shipments hit an estimated 399,000 units, and the previous record for March, approximately 380,000 units, had been established in 1937.

Just how far the first three months of this year have out-distanced the previous record-breaking first quarter of 1940 is shown by the following comparison of shipments during the two years:

	1941	1940
January	383,000	239,000
February	365,000	290,000
March	454,000	307,000
Total	1,202,000	836,000

As the tabulation shows, shipments for both March and the first quarter of 1941 were more than 44% higher than those for the corresponding periods of the previous year.

World shipments by 12 companies reporting to National Electrical

(Concluded on Page 16, Column 3)

Philco Refrigerator Designer Awarded Lord & Taylor Prize

NEW YORK CITY—Philco Corp. has been awarded the Lord and Taylor American Design Award for its "distinguished contribution to the field of industrial design" through the design of its electric refrigerator, with Harold Van Doren, Philco refrigerator designer getting a check for $1,000 and a scroll testifying to the distinctive lines and construction of the Philco refrigerator.

The award, presented at a luncheon of notables at the Waldorf-Astoria hotel, was made by Walter Hoving, president of Lord and Taylor, following speeches by Dr. Henry M. Wriston, president, Brown university; and John Hay Whitney, president, Museum of Modern Art.

In analyzing the design developments which led to the winning of the award, Mr. Hoving said.

"This design has proved enormously successful. Philco engineers had developed a new feature called the Conservador. This is a door-behind-a-door, a shallow compartment lined with shelves for frequently used foods. This tended to cut down the size of the ice cube unit.

"Van Doren's solution of this problem brought about a radical rearrangement of the refrigerator's interior. He extended the ice cube unit across the top of the cabinet, with the Conservador underneath it, and the entire appearance of the interior was unified and simplified.

"The unusual features of the 1940 Philco refrigerator established a trend toward a new arrangement of refrigerator interiors."

March Range Shipments Again Set a Record

NEW YORK CITY—Shipments of electric ranges during March set an all-time record for the third successive month, according to reports of 18 manufacturers.

March range shipments to distributors and dealers in the United States, Alaska, and Hawaii totaled 61,647, an increase of 55.5% over 1940.

Borg Statement Shows Norge Quarter Profit

CHICAGO—Indications of a sharp improvement in the sales and net showing of the Norge household appliances division of Borg-Warner Corp. appears in the statement of C. S. Davis, Borg-Warner president, to stockholders that household appliances contributed about $520,000 to the net profit of the first quarter. As reported in last week's NEWS, net income of Borg-Warner for the period was $2,367,597.

Stockholders voted approval of an amended annuity retirement plan for employes, and elected John E. Johnson a director to fill the vacancy caused by the death of John Fletcher. Other directors and officers were re-elected.

Somewhat Different From a Refrigerator

One of the finely machined parts of the 50 caliber machine guns which will be Frigidaire's main contribution to the defense program is held by G. H. Murray (left), assistant superintendent of production in the company's new ordnance plant. Looking on are R. C. Hood (center), master mechanic, and George R. Auld, general superintendent. (See story on page 16.)

Philco Designer Wins an Award

Harold Van Doren (left) who won the Lord & Taylor American Design Award for his work on the Philco refrigerator, is congratulated by Raymond Loewy, former winner, as Walter Hoving, Lord & Taylor Co. president, looks on during the presentation luncheon.

Kitchen Scoop

Refrigerator-Range Combination Offer Boosts Sales For Dallas Dept. Store

DALLAS, Tex. — Advertisements offering a combination of a more expensive refrigerator and electric range at reduced prices, or a fixed trade-in allowance of $20 for an old stove on a new range have produced surprising results for the appliance department of W. A. Green Co., department store here handling the Norge line.

Called the "kitchen scoop," the combination consists of a refrigerator listed at $149.95 plus a deluxe range, both offered at a total reduction of $30 with no down payment and monthly payments of $6.95.

This advertisement was developed following the success of the original $20 trade-in offer, explained Frank B. LaPrelle, department manager. "We have been using the little advertisement offering the range for months," he says, "in violation of all of the precedents of advertising. Our advertising men have been predicting that this advertisement would be 'dead' by this time or that. It hasn't died, but rather it keeps right on bringing in business. We use it three times a week."

Part of the success of the "kitchen scoop" offer may be due to the widespread promotion in this area during the past few years of the complete electric kitchen, Mr. LaPrelle believes.

In addition to stressing the reduced list price of the combination offer, the advertisement points out the smaller monthly payments allowed. The refrigerator, if bought separately, calls for terms of $4.80 monthly, and the range $2.75, or a total of $7.55, compared with $6.95 for the two combined.

"This advertisement," Mr. LaPrelle says, "not only has been bringing us business which has materially helped in boosting our range sales to unprecedented figures, but is bringing us customers who buy merchandise wholly apart from that around which the appeal has been based."

Paramount Radio Shop Buys Its Appliances By the Carload

OMAHA, Neb.—Paramount Radio Shop, exclusive appliance store, has been appointed dealer for Norge refrigerators and has purchased two carloads. The company also recently purchased 10 carloads of electric refrigerators representing five leading makes.

Patchin Opens Store

FORT ATKINSON, Wis. — Firestone Home & Auto Appliance store has been opened here under the management of Glenn J. Patchin.

'Colonial Cottage' Store Increases Sales of Appliances 40%

NASHVILLE, Tenn.—That simple showmanship is still a most effective way to sell electrical appliances has been demonstrated by the Nashville Electric Co.'s new "electric home" located at 527 Church St. here. Despite the fact that the store is located in the heart of Nashville's downtown business district, the management of this Hotpoint dealership decided to build a store resembling a Cape Cod colonial cottage—and since then has realized more than a 40% increase in the sales of all appliances.

The 30-foot front of the store is done in white flat work, with shutter windows in green, and window boxes which contain actual flowers. Contrasted with the front of banks, department stores, and variety stores in the same block, it presents an appearance which never fails to stop shopping women. R. R. Towne, manager of the store, believes the new front has doubled the amount of floor traffic, simply because women are always attracted by the novel design.

With this prominent location, and the fact that the front acts as a magnet for women, Nashville Electric Co. is now selling 600 electric ranges a year, 400 refrigerators, and a similar volume in laundry equipment. Name and address of every woman who comes into the electric home is put on a mailing list—and followed up at 60-day intervals.

Sam's Selling Slants

V. E. ("Sam") Vining, merchandising manager for Proctor Electric Co., is the industry's most colorful salesman. This is the twenty-eighth of a series of Sam's famous "Selling Slants" messages to salesmen. An earlier series was published in the News in 1937.

FAT MAN

I think perhaps the latest selling rule number one may be "Never high-hat a fat man."

You know the type I mean—the kind that can't play golf because when he puts his ball where he can see it, he can't hit it—and when he puts it where he can hit it, he can't see it.

He got that way because he knew what he wanted—and ate it.

I watched one of them go up to a counter in a store in Philadelphia not long ago. "Lord Gazukus," behind the counter, took his mind off international intrigue long enough to condescend to an interview.

The Fat Man asked for pipe cleaners. "His-Honor-the-Duke" winced. A member of the royal family had been insulted.

And—said Fat Man was thumbed over to the plebian end of the counter.

A little girl, her name may have been Alice, sympathized with the Fat Man's need, and produced the lowly pipe cleaners—and being bright that way, sort of psychic as it were, she instantly suspected said Fat Man smoked a pipe—

And,

Asked about it.

Fat men thrive on personal interest—I know.

Result: She took him right down into the Ducal Domain and sold him a pipe and a tobacco pouch.

I have wondered if The Duke got credit for the sale.

1,800 Persons a Month Examine Appliances In 'Detached Show Window' In Parking Lot

LOS ANGELES—In a single month more than 1,800 persons stopped and spent at least 10 minutes examining appliances shown in the "detached show window" which Sampson Electric Co. recently built in the center of its big parking lot here.

Permanently constructed of brick, the 12 x 12-foot "display case" has heavy plate glass front and sides. There is enough room for a refrigerator, range, and washer. The display is brightly lighted all night long, and the appliances also are kept in action throughout the night, with the refrigerator door automatically opening and closing, the range being turned on and off, and the washing machine operating.

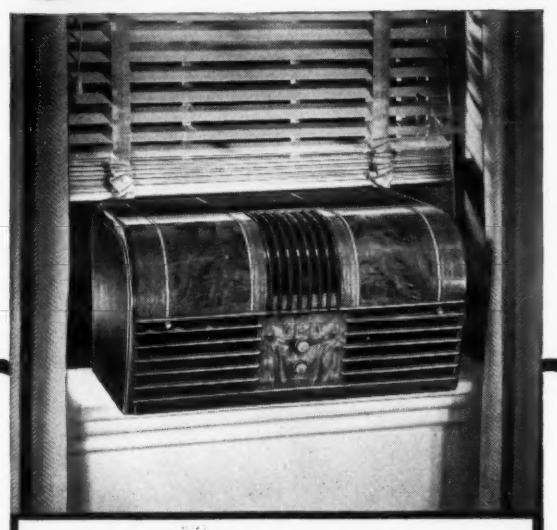
Many late-hour drivers stop to look at the appliances, which can be seen from two blocks away. Brilliant fluorescent lights, a white linoleum background, and model kitchen fittings around the side make this room attractive.

This unusual display is probably just an outgrowth of the firm's display technique in its store. The main building is designed after a Williamsburg colonial home, and is divided into separate departments for each appliance line, eliminating customer confusion and conflict between competing lines.

In the store appliances are displayed in huge bay windows and are kept lighted most of the night. Prospective customers can drive into the parking lot, which will hold 50 cars, and look at the lines without getting out of the car. Price tags which can be read at a distance of 250 feet permit a motorist to see the store's price range while merely driving into the lot.

BIG, NEW, RETAIL BUSINESS

✓ Tremendous Sales
✓ High Unit of Sale
✓ No Saturation
✓ No Trade-Ins
✓ Big Dollar Profit



Get into the portable Air Conditioning business right now! This new, big-profit retail business is growing faster every day. It's easy-to-handle package merchandise . . . quickly installed . . . no plumbing . . . no wiring. And FULL PROFITS . . . no trade-ins!

PHILCO-YORK
SINGLE-UNIT
AIR CONDITIONERS
Lead the World in Sales!

Start *right* in this amazing new business . . . sell the *sales leader*, Philco-York! It's the world's biggest-selling Single-Unit Air Conditioner. Last year, nearly ONE-HALF of *all* the Single-Unit Air Conditioners sold were Philco-York Units!

And now, for 1941, Philco and York bring you a line that is easier to sell than ever! New improvements, greater efficiency, new beauty . . . all at prices well below the average of the industry.

Think of the market! Every home, every office . . . hotels . . . hospitals . . . tourist courts . . . all are potential customers. A tremendous Philco campaign, including direct mail and ads in the leading professional magazines, is now going on. And the leads from this vast campaign will be passed on to you . . . *hand-picked prospects*, ripe for easy sales!

In addition, Philco offers you many other dealer helps for use in your store. Don't miss out on this fast-growing, profitable business. See your Philco distributor or mail the coupon now!

MAIL COUPON NOW

Real Air Conditioning
at a Price the Public Can Pay!

Model 76-A (*Illustrated*)

- Cools and Conditions Room Air.
- Dehumidifies. Moisture is wrung out of the air, leaving it cool, dry, stimulating.
- Draws in Fresh, Outside Air.
- Filters Out Dirt, Dust and Pollen. A boon to hay fever sufferers!
- Circulates the Air.
- Shuts Out Street Noises.
- Removes Stale, Stuffy Inside Air.
- Gives Pure Air All Year 'Round.

There's a Philco-York Air Conditioner for Every Size Room, Priced as Low as . . . $129.50

PHILCO, Air Conditioning Dept. 566
Tioga and C Streets, Philadelphia, Pa.

Please send me full details of your dealer franchise proposition on Philco-York Air Conditioners, together with Discounts and Special Wholesale Credit Terms. Also send big, new Illustrated Booklet.

NAME_____

STREET_____ COUNTY_____

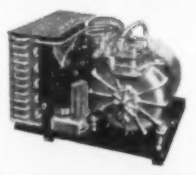
CITY_____ STATE_____

EASY FLARING

You get it in WOLVERINE TUBING
—Buy From Your Jobber—

WOLVERINE TUBE CO. DETROIT

SERVEL *Supermetic*



. . . THE LITTLE MACHINE WITH THE BIG FEATURES

Truly hermetic! Genuinely serviceable! PLUS a score of "super-features" that no other refrigerating machine in the industry can match. For all temperature ranges. 1/5, 1/4, 1/3, 1/2 HP. Write for details. Servel, Inc., Electric Refrigeration and Air Conditioning Division, Evansville, Indiana.

KELVINATOR STEP-UP PLAN CLICKING... MOIST-MASTER SALES NOW 25% OF TOTAL... 80% OF ALL SALES AVERAGING MORE THAN $162 RETAIL...

Headed for Another Record-Breaking Year— 1941 Kelvinator Refrigerator Sales are Already over 70% of Entire 1940 Sales!

Figures can be just as dramatic as a Hollywood preview—*if* they're on the right side of the ledger—*and* if they're in *your* ledger.

Just take a look at *these* figures, for instance.

With some eight per cent fewer dealers than in 1940—a result of Kelvinator's selective retailer plan—1941 Kelvinator refrigerator sales to date are already over 70% of the entire 1940 sales.

But that's only *part* of the story.

Thanks to the most logical and compelling step-up plan ever offered to the industry, 80 per cent of Kelvinator sales are averaging *more than $162 retail.*

And 25 per cent of sales are on the radically new, sensationally beautiful Moist-Master models.

Yes, with that realistic, retail-minded distribution policy originated by Kelvinator a year and a half ago, Kelvinator dealers are going to town—*non-stop.*

Kelvinator Division,
Nash-Kelvinator Corp.,
Detroit, Mich.

KELVINATOR RANGES SHARE IN SENSATIONAL UPWARD SALES TREND!

The same "retail-minded" policies that proved so successful with Kelvinator refrigerators are now scoring sensational results with Kelvinator electric ranges.

Exclusive features, new low prices, and the industry's most spectacular selling tool—the Kelvinator Salesmaster—combine to give Kelvinator retailers *increasing* opportunities for volume and profit.

Get More — Get KELVINATOR

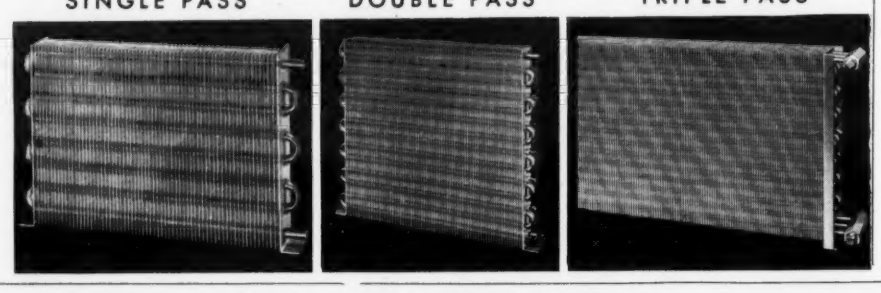
fedders AMERICA'S LARGEST MANUFACTURER OF REFRIGERATION CONDENSERS

Announces a complete new line of **ALL-COPPER CONDENSERS** *with* **FED-R-KLEEN VERTICAL FINS**

The same proven design furnished as standard equipment for millions of America's leading refrigerators is now available for REPLACEMENT. Continuous copper tubes... metal-to-metal bond between flanged copper fins and tubes... standard sizes up to 2 HP. Write for new Catalog 411.

FEDDERS MANUFACTURING CO. INC., BUFFALO, N. Y.

SINGLE PASS DOUBLE PASS TRIPLE PASS



Frigidaire, G-E Top Magazine Lineage

(Concluded from Page 1, Column 1)

Servel, Inc., with a figure of $273,660. This was closely followed by Kelvinator, which spent $258,723. Westinghouse was fifth with $228,995.

The "Saturday Evening Post" again outdistanced all other national magazines in garnering refrigerator lineage. It was the top publication of nine of the 10 manufacturers who did national magazine advertising.

Crosley

Crosley Corp.	
Electric Refrigerators	
Saturday Evening Post	$ 19,500
Collier's	15,950
Look	7,450
Total	**$ 42,900**

Frigidaire

Frigidaire Div., General Motors Corp.	
Electric Refrigerators	
Saturday Evening Post	$128,800
Woman's Home Companion	49,720
Good Housekeeping	48,400
McCall's	33,000
Life	28,118
The American Home	22,350
Household	21,600
Better Homes & Gardens	17,300
National Geographic	14,850
Farm Journal & Farmer's Wife	14,740
Country Gentleman	10,600
The Parents' Magazine	9,200
House & Garden	7,800
House Beautiful	7,800
Total	**$414,278**

General Electric

General Electric Co.	
Electric Refrigerators	
Saturday Evening Post	$103,500
Collier's	56,700
Ladies' Home Journal	34,500
Woman's Home Companion	33,900
Better Homes & Gardens	28,800
Liberty	27,600
Good Housekeeping	26,400
Country Gentleman	15,900
National Geographic	13,500
American Magazine	12,240
True Story	11,700
Hearst's-Cosmopolitan	11,025
Time	10,500
Redbook	6,900
The Parents' Magazine	5,250
House Beautiful	5,200
Total	**$403,615**
Water Coolers	
Time	10,500
Total	**$ 10,500**
Grand Total	**$414,115**

Hotpoint

Edison General Electric Appliance Co., Inc.	
Electric Refrigerators	
Saturday Evening Post	$ 28,500
Collier's	22,500
Total	**$ 51,000**

Electrolux

Servel Electrolux Sales Div., Servel, Inc.	
Gas and Kerosene Refrigerators	
Saturday Evening Post	$ 77,500
Life	44,875
Good Housekeeping	37,800
Liberty	35,275
Household	21,600
Better Homes & Gardens	18,450
The American Home	15,860
Country Gentleman	14,471
Capper's Farmer	7,829
Total	**$273,660**

Kelvinator

Kelvinator Div., Nash-Kelvinator Corp.	
Electric Refrigerators	
Saturday Evening Post	$101,500
Collier's	67,500
Life	55,223
True Story	17,400
Household	17,100
Total	**$258,723**

Norge

Norge Div., Borg-Warner Corp.	
Electric Refrigerators	
Saturday Evening Post	$ 50,500
Woman's Home Companion	8,550
Ladies' Home Journal	8,500
Total	**$ 67,550**

Philco

Philco Radio & Television Corp.	
Electric Refrigerators	
Collier's	$ 90,370
Saturday Evening Post	79,675
Liberty	18,400
Total	**$188,445**

Stewart-Warner

Stewart-Warner Corp.	
Electric Refrigerators	
Saturday Evening Post	$ 9,500
Total	**$ 9,500**

Westinghouse

Westinghouse Electric & Mfg. Co.	
Electric Refrigerators	
Saturday Evening Post	$ 57,225
Collier's	37,800
American Magazine	33,880
Good Housekeeping	29,040
Life	24,450
Better Homes & Gardens	17,300
The American Home	14,900
Household	14,400
Total	**$228,995**
Water Coolers	
Time	7,000
Total	**$ 7,000**
Grand Total	**$235,995**

York

York Ice Machinery Corp.	
Commercial Refrigeration	
Time	$ 4,950
Fortune	2,800
Business Week	1,830
Total	**$ 9,580**

Program Completed For ASRE Meeting

(Concluded from Page 1, Column 2)

Mr. Money, are Alfred Chadburn, Jr., E. W. Townsley, and J. H. Elliott. The wives of these members, under Mrs. Chadburn as chairman, plan a series of social events for women guests.

The complete program follows:

TUESDAY, MAY 27

3:00 p.m. Advance registration.

4:00 p.m. Executive committee meeting.

5:00 p.m. Cocktail party.

8:30 p.m. Family Party—Della Robbia Room.

10:00 p.m. Get-together—Rathskeller.

WEDNESDAY, MAY 28

9:00 a.m. Registration—ballroom foyer.

9:30 a.m. First Session—L. L. Lewis, chairman.

"Moisture Migration—A Survey of Theory and Existing Knowledge," P. F. McDermott, Johns-Manville Sales Corp., New York City.

"Reversed-Cycle Refrigeration for Air Conditioning Work," R. D. Heitchue, Westinghouse Electric & Mfg. Co., Springfield, Mass.

"Strategic and Substitute Materials in the Defense Program," H. W. Gillett, Battelle Memorial Institute, Columbus, Ohio.

"Measurements of Heat Generated by Fruits and Vegetables," W. P. Green, W. V. Hukill, and D. H. Rose, U. S. Department of Agriculture, Washington, D. C.

12:30 p.m. Luncheon—Florentine Room. Speaker: Mayor James G. Stewart.

2:00 p.m. Cars leave for golf—Hyde Park Country Club.

2:30 p.m. Buses leave for industrial inspection trip, Crosley and Kroger plants.

5:30 p.m. Boat leaves for Coney Island.

6:30 p.m. Dinner at Coney Island.

THURSDAY, MAY 29

9:30 a.m. Second Session—W. R. Hainsworth, chairman.

"Quick Frozen Foods and Refrigeration," Harry Carlton, University of Tennessee, Knoxville, Tenn.

"Cooler and Condenser Heat Transfer with Low Pressure 'Freon' Refrigerant," Walter Jones, Carrier Corp., Syracuse, N. Y.

"Refrigeration and Air Conditioning in the Defense Industries," Andre Merle, Engineer, QMC, Washington, D. C.

"Transient Heat Flow in Calculating Air Conditioning Loads," Emerson M. Pugh, Carnegie Institute of Technology, Pittsburgh.

Formal recognition of Kansas City and Cleveland sections, A.S.R.E.

12:30 p.m. Discussion luncheons, open to all: standards committee, technical committee, locker committee—each in separate parlor.

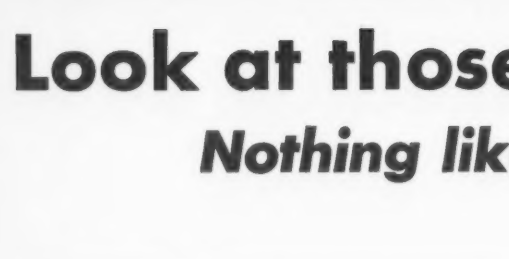
2:00 p.m. Buses leave for golf—Hyde Park Country Club.

4:00 p.m. Council meeting (Hyde Park).

7:00 p.m. Dinner-dance — Hyde Park Country Club.

Look at those A-B Controls!

Nothing like 'em for trouble-free service



I'm not kidding when I say—"Nothing like 'em for trouble-free service." All our Allen-Bradley starters have double break, silver alloy contacts that never need any attention. We just install 'em... and forget 'em. There's never any maintenance.

What's more, there are no pivots to rust or bearings to stick. There are no flexible jumpers to break. Is it any wonder we don't have any starter maintenance?

Take it from me... Allen-Bradley starters have revolutionized our old ideas about what to expect from motor starters. Those overload relays must be good, because we've never had any motors go bad. And I like those roomy cabinets. They're so easy to wire. The white interiors are a mighty big help in dark locations. So take a tip from me... specify Allen-Bradley... and be safe.

Allen-Bradley Company A-B 1313 S. First St. Milwaukee

ALLEN-BRADLEY
SOLENOID MOTOR CONTROL

Dayton
V-BELTS
Silent, vibrationless, dependable, long-lasting. Powerful grip prevents slippage. A nearby distributor carries a complete stock for appliances and machines.
THE DAYTON RUBBER MFG. CO., DAYTON, OHIO
World's Largest Manufacturer of V-Belts

U. S. GOVERNMENT Specification

Filtrine

Cafeteria Coolers

Filtrine Mfg. Co., Brooklyn

REA Refrigerators Are Priced Low

(Concluded from Page 1, Column 3)

members only, installed in a farm kitchen and warranted for five years, will be less than $90 for the smaller box and less than $110 for the larger one. The smaller box is a standard model; the larger one includes a meat keeper. At small extra cost the farmer can get a glass-covered sliding vegetable or egg hydrator and a 5-gal. cream can, fitted on built-in trunions for tipping and designed so that it can be filled or the contents stirred without taking the can out of the refrigerator.

The anticipated quantity to be purchased by the 700 operating REA-financed electric systems is a minimum of 25,000 within six months. The offer of Stewart-Warner Corp. holds for six months if sales have reached the anticipated 25,000 units, and, with cost adjustments, for an additional six months if sales do not reach that figure. When the present offer expires, new offers will be invited from manufacturers.

REA action in this matter, officials of the government agency stated, is not to help in selling refrigerators to farmers, but to aid farmers in buying refrigerators suited to their needs at a price they can afford.

SELL WESTINGHOUSE

TRUE·TEMP CONTROL

and Cash in on the

Big Difference!

Getting down to brass tacks, the big difference between ordinary refrigerators and Westinghouse is the *place* where cold is controlled. The *froster* is the cold control room of other refrigerators, but Westinghouse controls cold from the *food* compartment and in *actual degrees Fahrenheit*. A single turn of the dial gives users *steady* cold where food is kept. That's where the woman needs and wants dependable cold. And it's steady, *balanced* cold no matter how hot or chilly the kitchen gets. Women appreciate this difference; it gives them *correct* cold and humidity for milk, meat, vegetables, frozen foods and leftovers. Only Westinghouse has *True-Temp* Control. Only Westinghouse controls cold in *actual degrees Fahrenheit*.

WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY, MANSFIELD, OHIO

WESTINGHOUSE

Westinghouse Refrigerators

THE *Leisure Line* OF ELECTRIC HOME APPLIANCES

Widespread Interest In Kitchens Shown By 4,157 Entries In Planning Contest

NEW YORK CITY—A total of 163 prize-winners was selected from the 4,157 plans for kitchens submitted in the contest conducted by McCall's Magazine under the direction of Mrs. Mary Davis Gillies, interior decorating editor.

Widespread interest in kitchens is shown by the fact that entries were received from every state in the U. S. A. as well as from Hawaii, Alaska, Canada, and Cuba.

In her kitchen which won the grand prize of $200 for homemakers, Mrs. Robert C. Warner of Denver has provided efficient arrangement of work areas in an informal setting. Equipment is placed in the "U" sequence, with continuous work surfaces and ample cabinet storage.

The special prize of $200 for the best kitchen designed by a student was awarded to Wayne Pippin of Mill Valley, Calif. Equipment is placed in the "U" sequence, with the addition of a complete laundry and sewing unit against one wall.

Special prize of $200 for the best kitchen submitted by a professional kitchen planner went to Boyd E. Georgi of Alhambra, Calif. The outstanding point of interest is a breakfast corner opening onto a dining terrace and garden. Two walls are made of glass from floor to ceiling, with sliding glass doors making the terrace an extension of the kitchen. Breakfast furniture is of clear Lucite, upholstered in yellow leather. The kitchen's work area includes ample storage space.

Mrs. Daniel A. Dorsey of Great Neck, Long Island, N. Y., won the special prize for the best all-electric kitchen. It was outstanding for its efficient arrangement of kitchen and laundry equipment in a gay setting. The kitchen equipment was arranged in the recommended "L" sequence, terminating in a built-in window seat with a breakfast table. The laundry corner included a built-in ironing board and clothes-sorting table.

Typical of the detail with which Mrs. Dorsey analyzed the kitchen problem is her statement, "In the laundry I've combined several features; a flower arranging corner, additional space for extra canned goods, a place for rainy day equipment and sports equipment." To combat the severity of a purely modern kitchen, Mrs. Dorsey used a painted design suggested by an old quilt in the Metropolitan Museum on the breakfast table and to frame the windows.

Mrs. Arthur A. Frick of Pasadena, Calif., won the special prize for the best all-gas kitchen. In her plan Mrs. Frick specified a gas range and gas refrigerator as well as a novel dinette or "breakfast bar." This counter dinette is a continuation of the regular work surface over the cabinets, takes up almost no space and yet seats four people.

The special prize for the best kitchen with laundry space was awarded to Mrs. Robert L. Tufts of Lakewood, Ohio. Mrs. Tufts divided the food and cooking part of her kitchen from the home laundry side by a half partition of counter height. In this partition is concealed a sliding ironing board that is not in the way when the laundry is not being used. A wall of glass bricks insures adequate daylight. All equipment is built in, with unbroken work surfaces throughout.

Prize for the best kitchen with an eating unit went to Mr. Merrill A. Birch of Minneapolis, a student in the institute of technology of the University of Minnesota. Equipment was placed in the "U" arrangement, with continuous work surface and ample cabinet storage. The table, for informal dining, was a continuation of the work surface, with chairs covered in woven rawhide.

The special prize for the best small kitchen went to Mrs. J. C. Stephens of Rome, Ga. Equipment is placed in the "U" sequence, with continuous work surfaces and ample cabinet storage.

Interestingly enough a man—Ned Cole of Austin, Tex.—won the special prize for the best large kitchen. Mr. Cole, an architect, planned a colorful modern room particularly suited for a warm climate.

Appropriately, the special prize for the best farm kitchen was awarded to Mrs. Paul Murphy of the Flying V Ranch, Hermosa, S. D. Mrs. Murphy used local motifs for decoration, particularly the Flying V brand.

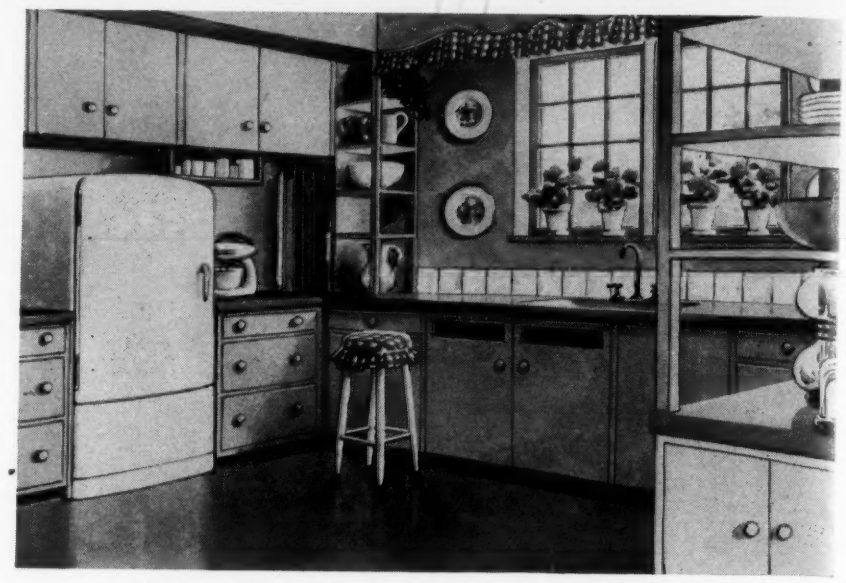
The special award for the best kitchen using a kerosene stove was given to Miss Lucille Kistler of Perry, Tex. Miss Kistler places her kitchen appliances in the "U" sequence, with continuous work surface and ample cabinet storage. An eating center is included in a compact arrangement.

Of special interest were the many plans submitted for kitchens with a hobby unit, won by Mrs. Carol Graves of Philadelphia. Mrs. Graves' kitchen is planned around a collection of pewter, with a place for flowers as well as a thought for kitchen callers. A fireplace is the focal point in Mrs. Graves' pine-panelled kitchen.

In addition to the grand prizes and special prizes of cash, McCall's Magazine awarded 50 merchandise prizes for the best entries from each state in the Union, Washington, D. C., and the combined territories of the United States.

The judges included Dr. Mary Bryan, director of institutional management at Columbia university, former editor of the Journal of American Home Economics, and past president of the American Dietetics Association; Mr. Allmon Fordyce, industrial designer who was responsible for the Living Kitchen at the New York World's Fair; Mr. William Hamby, architect; Mrs. Harold McClinton, author and homemaker; and Miss Elizabeth Sweeney, household technologist at Syracuse university.

These 3 Designs Took Top Prize Money



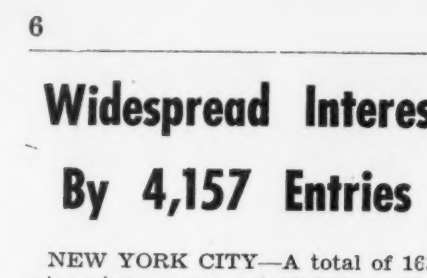
Adjudged the best plan for an all-electric kitchen.

Prize-winning design for an all-gas kitchen.

Best kitchen design including a laundry.

Anaconda Copper Refrigeration Tubes

Dependable!



ANACONDA

THE AMERICAN BRASS CO.
FRENCH SMALL TUBE BRANCH
General Offices: Waterbury, Conn.

SPORLAN VALVES

GALE
CONDENSING UNITS
Precision built for efficient operation.
GALE PRODUCTS
1635 Monmouth Blvd. Galesburg, Ill.

STRENGTH WHERE IT IS NEEDED

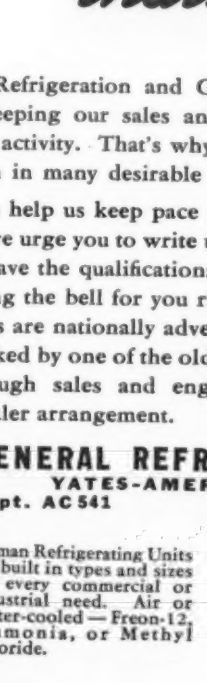
The pipe sockets of STREAMLINE Wrought Copper Fittings are machined, thus maintaining very close capillary tolerance. They are of ample length and well within the strength limits for soldered areas as determined by the National Bureau of Standards. They provide adequate support for the pipe lines.

The shoulders or pipe stops are positive and at right angles to the fitting. This feature acts as a stop in preventing the liquefied solder from getting into the pipe lines.

STREAMLINE Wrought Copper Tees and Elbows are protected with heavy paper board caps which eliminates all dirt or foreign particles from entering in stocking, handling, or shipping. The caps also afford protection against the solder cup becoming distorted and out-of-round.

Send for illustrated Price List.

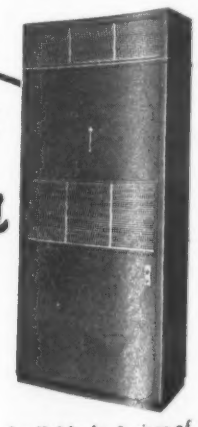
MUELLER BRASS CO.
PORT HURON, MICHIGAN



Note internal construction of STREAMLINE TEE—Extra strength provided where it is needed—No sharp corners to create turbulence and restrict flow.

STREAMLINE Wrought Copper FITTINGS

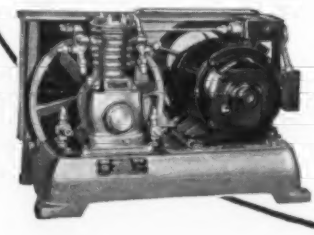
A Two Party Line that's getting Results



Available in 3 sizes of standardized self-contained units, G-R Packaged Air Conditioning finds a ready market

Yes, Lipman Automatic Refrigeration and G-R Unit Air Conditioning form a "two-party" line that's keeping our sales and service organization on-the-jump in these days of increased activity. That's why we are looking for increased Sales and Service representation in many desirable territories.

If you are in a position to help us keep pace with the growing demand for these two closely related lines, we urge you to write us at once regarding the possibilities in *your* territory. If you have the qualifications and facilities, this profitable "two-party" line can start ringing the bell for you right from the beginning of the new summer season. Both lines are nationally advertised in leading trade and business publications. Both are backed by one of the oldest names in the field of commercial refrigeration — plus thorough sales and engineering cooperation. Write for details of our profitable dealer arrangement.



GENERAL REFRIGERATION DIVISION
YATES-AMERICAN MACHINE CO.
Dept. AC 541 BELOIT, WIS.

Lipman Refrigerating Units are built in types and sizes for every commercial or industrial need. Air or Water-cooled — Freon-12, Ammonia, or Methyl Chloride.

Lipman GR AIR CONDITIONING CONQUERS HEAT

Lipman AUTOMATIC REFRIGERATION

Fair and Cooler

By Henry Knowlton

Hospital To Dedicate Memorial System

Friends of the late Dr. Alfred W. Ward, of Demarest, N. J. have subscribed $8,000 for air conditioning operating rooms at Englewood Hospital, Englewood, N. J. The system will be completed by June 1 and dedicated as a memorial to Dr. Ward, who was chief of the hospital's surgery staff for many years.

• • •

Air Conditioned 'Shotgun Houses'

As air conditioning spreads like wildfire over the fast growing cities of the Texas empire, oldtimers out in East Texas assert that "It ain't new." These weatherbeaten, tobacco-chewing veterans of cattle-rustling and horse-stealing days refer to the old homes built with a wide center hall running the length of the building, and facing the prevailing wind.

There is always a breeze through these center halls, some of which were constructed about 14 feet wide, by 14 feet high. By opening doors and windows, a crude but effective system of ventilation resulted. Many of these old homes, built 50 or more years ago, are still in use.

Such houses became known as "shotgun houses," because of the ease with which the returning master of the house could walk through the hall and look into every room, quietly observing the activities of his wife and daughters. Many are the stories the oldtimers tell . . .

One of these houses, modernized with the original log structure as its framework, still stands some 85 miles from Mount Pleasant, Tex. Large fireplaces built of clay and grass were placed in rooms on each side of the center passage. Used for all cooking, as well as heating, the fireplace "draft" was controlled by opening and closing doors into the large hall.

Present occupants of the old house assert that there is always a cool breeze flowing through the center hall—even on the hottest day.

'Southpaw' Joins Stoker Lineup

There are few men working at a trade who were not, in their apprentice days, sent hither and yon searching for a left-handed monkey wrench, a sky hook, or a timber stretcher. And up until recently no one had ever heard of a left-handed air conditioner.

In the past, winter air conditioners manufactured by Iron Fireman were designed on the assumption that the coal bin would always be at the right of the unit. Because it was often difficult to alter basement plans to conform with this arrangement, engineers for the company have designed a unit which feeds coal from the left—thus the first southpaw air conditioner.

Windowless Factory Installs Cooling

CEDAR RAPIDS, Iowa—Complete air conditioning has been installed in the new windowless factory of the Collins Radio Co., manufacturer of delicate radio mechanisms. A total of 51,000 square feet of factory and office space was air conditioned with 160 tons of York refrigeration and a well water system using 250 g.p.m. of 54° water.

The well water pre-cools the air, then goes through the condensers, and is finally sprayed on the roof of the windowless structure. All mechanical details were handled by the Austin Co. of Chicago. R. C. Longwell, of Westerlin & Campbell Co., secured the order for the air conditioning equipment.

Showrooms Enlarged

DALLAS, Tex.—Lewis L. Robinson, owner of Refrigeration Sales & Service Co., has enlarged his showrooms.

100 Room Coolers Save Taxes and Cost Of Operating Supervision For Hotel

WASHINGTON, D. C.—Anticipating the hot weather discomfort of busy Washington defense workers this summer, the New Colonial hotel is now beginning to install 100 Pleasantaire room coolers.

The management of the New Colonial stated that before buying the new Pleasantaire equipment, it had made a thorough investigation of the entire air conditioning subject and reached the conclusion that the unit was a more economical and practical solution to its problem than the central plant type of comfort cooling.

Two sales points clinched the deal, according to the dealer who handled the transaction. The salesman pointed out to the New Colonial management that, if a central plant were installed, it would constitute a definite improvement in the building and increase taxes. Since the unit air conditioners can be installed without even a single screw hole in the building, it is definitely portable equipment and would not increase the value of the real estate from a tax standpoint.

Second argument that the salesman used was the fact that unit air conditioning equipment required no engineering supervision. In Washington, a licensed engineer must be on duty constantly to supervise the operation of any central station air conditioning equipment of 25 tons capacity or more. In a hotel, this means that a licensed engineer must be available 24 hours a day, or three engineers in most cases. With unitary equipment, no engineering supervision of any kind is required.

Figuring all costs of an air conditioning installation, the hotel will save about 70%, the Pleasantaire management claims.

Small Systems Lead N.Y.C. Cooling Sales In First Quarter

NEW YORK CITY — Ninety-two air conditioning systems were installed in the greater New York area during the first three months of this year, according to reports compiled by Consolidated Edison Co. These installations included a total of 87 packaged air conditioning systems.

Small systems again predominated in the reports, with 55 jobs of 10-hp. capacity or less placed in service. Fourteen installations from 10 hp. to 20 hp. were made, and 23 jobs over 20 hp. were reported.

Only one large system, a department store installation running 376 hp., was included in the totals.

A classified list of the 92 installations made during the first quarter follows:

Residential	5
Theater	1
Banks	3
Funeral Home	1
Hospital Laboratory	2
Office Building	1
Offices, Misc.	26
Restaurants	19
Showrooms	5
Store, Department	1
Stores, Retail	13
Other Commercial	3
Office, Doctor	1
Drug & Chemical Mfg.	2
Fur Vaults	3
Printing & Lithography	2
Textile Mfg.	1
Candy Mfg.	1
Other Industrial	2
Total	92

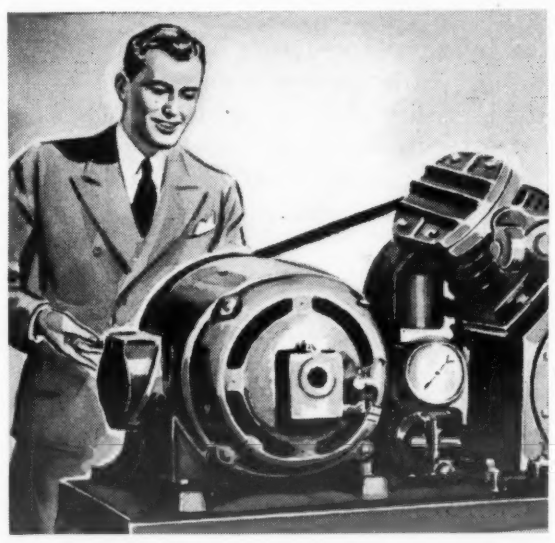
Small Town To Condition Library

FAIRBURY, Neb. — The city library will be air conditioned before hot weather arrives, according to a recent announcement by the Fairbury Library Board. Members of the board expressed the opinion that the cost of air conditioning would be much more than compensated for by increased comfort to patrons.

A good start towards locker plant success

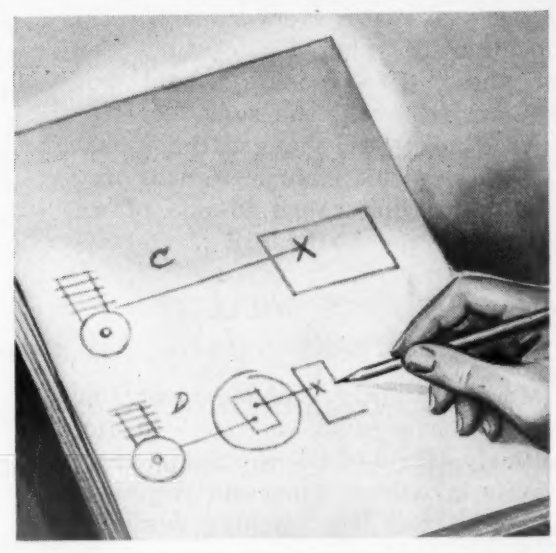
..."FREON"* REFRIGERANTS

Three advantages speed the way to locker plant success when cooling systems using "Freon" refrigerants are installed. These advantages are: safety, efficiency and economy. Study these advantages—compare what you get with other systems—and you'll see why "Freon" refrigerants are ideal for locker plant operations!



The most important reason for choosing "Freon" refrigerants is their safety. Heavy losses can result even from tiny refrigerant leaks . . . causing spoiled meats, vegetables, fruits or berries. But not with "Freon" refrigerants! Because they are *completely harmless to food!* This quality of "Freon" refrigerants is often demonstrated by progressive locker owners to help them get new business. This safety feature will help *your* locker plant client convert visitors to enthusiastic customers!

Efficiency is greater with "Freon" refrigerants, because you can use the modern direct expansion method of cooling. By employing plates instead of brine coils, this method permits faster sharp-freezing. Why? Because food resting on pipes gets only a fraction of the cooling contact obtained by food in direct contact with the plate. Thus, you can use a smaller sharp-freezing room to handle a given amount of food. That means less operating expense, and more locker space to produce income.



The direct-expansion system employing "Freon" refrigerants, as shown by sketch "C" above, saves money by eliminating the intermediate step of cooling brine. That intermediate step, found where a secondary system is used, often steps up power costs as much as 25%. Direct expansion systems employing "Freon" refrigerants also eliminate the cost of brine coolers, pipes and pumps. You avoid the high costs of keeping brine at low temperatures, and simplify defrosting problems.

▶ **No wonder so many locker owners insist on compressors using "Freon" refrigerants. The more you investigate, the more you'll be convinced there's only one choice for locker plant use—"Freon" refrigerants!**

**"Freon" is Kinetic's registered trade mark for its fluorine refrigerants.*

KINETIC

FREON

REG. U. S. PAT. OFF.

safe refrigerants

KINETIC CHEMICALS, INC., TENTH & MARKET STREETS, WILMINGTON, DELAWARE

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Trade Mark registered U. S. Patent Office; Established 1926 and registered as Electric Refrigeration News

F. M. COCKRELL, *Founder*

Published Every Wednesday by
BUSINESS NEWS PUBLISHING CO.
5229 Cass Ave., Detroit, Mich.
Telephone Columbia 4242

Subscription Rates
U. S. and Possessions, Canada, and all countries in the Pan-American Postal Union: $4.00 per year; 2 years for $7.00. All other foreign countries: $6.00 per year. Single copy price, 20 cents. Ten or more copies, 15 cents each; 50 or more copies, 10 cents each. Send remittance with order.

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VOLUME 33, NO. 1, SERIAL NO. 633
MAY 7, 1941

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Surplus Capacity After the War

MATERIAL surpluses in the United States after the present war may help solve economic problems instead of becoming a drug on the market, Andrew H. Phelps, Westinghouse general manager of purchases and traffic, declared recently in an address before the Mining Club, Inc., in New York City.

For generations America has feared its own productive capacity. First, it was labor which was afraid, and which opposed almost every mechanical innovation for almost a century, for fear these developments would put them out of work, the same developments which have changed the industrial worker's lot from a 16-hour day for a bare subsistance to one of an 8-hour day for $5 to $10.

MANAGEMENT OF INDUSTRY IS ALSO AFRAID

More recently management of industry has also become afraid, genuinely afraid of the superabundance of material which American engineering genius has been making available to them. For more than a decade it has been the fashion to worry greatly over the *over*production of almost anything and everything, to the point of making special studies of America's "capacity to consume."

And again with the development of the current war, fears are arising as to what can be done with the "excess capacity to produce" when the war is over.

'POTENTIAL INSTRUMENTS FOR GOOD'

Granting that there will be some very real problems in building new markets, it is refreshing to hear an industry leader of Mr. Phelps' caliber declare that "materials should be regarded as potential instruments for good, presenting a challenge to the imagination, skill, and energy of American business—a challenge which will be met and out of which will arise a higher standard of living and a better America."

America's way of life has grown up around the ability to produce, and evermore to increase production. When the railroads were extended westward, the opportunity was created to build more homes to live in, to build more roads to travel on, and to raise more farm produce for food and for clothing. When production line methods were introduced, automobiles became available not only to the rich but to the majority of families throughout the land.

Each major step forward in the history of our country has been accompanied by and has been built upon a major increase in production.

REFRIGERATION INDUSTRY A SHINING EXAMPLE

The whole history of the refrigeration industry is a shining example of this American ability to increase production. Almost every year has brought a greater and greater output, and correspondingly a greater marketing effort to place the increasing products into millions of homes and businesses.

Increasing capacity to produce presents an opportunity and a challenge to every industry in the country. Rather than fear this new power which will be available when the war is done, we should thankfully plan now how we can best use it to build a full life in the future.

Arguments Don't Pay

WHATEVER may be the facts behind international affairs, this much is clear: we must lay aside the luxury of idleness due to internal disagreements, and produce for defense —NOW.

We people of the United States, isolationist and interventionist, copperhead and war-monger alike, are committed to production of armaments on a large scale. The time for paralyzing quarrels between labor and management, for delay of defense production to suit the tastes of any pressure group, the time for stoppages of production—this time is past. The public has willed it so, and the public will *not* be damned.

MUCH THOUGHT BUT NO ANSWER

In time of stress, it becomes evident that some of our people with great knowledge possess little understanding, or gain it slowly, and that many of our people with little knowledge possess great understanding.

For months leaders of the nation's thought, Republican and Democrat, liberal and conservative, from business, from labor, and from government, have given a great deal of thought to labor-management problems, and doubtless have brought a wealth of worthwhile knowledge to bear on the problem. But — strikes in defense industry continue.

Government officials have told us that defense production must go forward. Mediation machinery has been set up. Yet—strikes in defense industry are continuing.

MANAGEMENT AND LABOR BOTH HATE STRIKES

Management would prefer to avoid strikes because they dig into profits. Labor would prefer to avoid strikes because they dig into savings. There are many loyal Americans in both

They'll Do It Every Time . . . . . By Jimmie Hatlo

groups. Nevertheless—strikes in defense industry are still going on.

Are our leaders aware of what the average, the everyday people are thinking?

WHAT EVERYDAY PEOPLE ARE THINKING

A NEWS staff member memos as follows:

"I overheard two union men seated behind me in a bus, one of whom, it developed, had worked in defense industry in 1918. They were agreed that there were many problems for labor, but that 'these defense strikes just can't go on.'

"I recently talked with an old negro mammy, daughter of a slave family. One of her first interests was that 'the guv'ment had better do somethin' about those strikes.'

"I see by the papers that a small town draft board in Georgia refused to accept further draftees, deferring all eligible draft prospects, and pledging to continue this practice until defense industry is again at regular work.

IDLE PLANTS, MEN ARE NO DEFENSE

"Probably none of these have much knowledge, but they do have an understanding of the crystal clear fact that you can't build a defense program with idle plants and idle workmen."

A number of labor dispute settlements arising from conciliation have shown evidence of a real willingness to go a long way to obtain a workable compromise. Retroactive - agreement plans have been introduced to prevent work stoppage, whereby the wage question can be settled while men are at work rather than while on strike.

Favoritism in defense contracts to companies with arbitration clauses in their labor contracts has been suggested, as well as a program for compulsory arbitration. Much progress has been made in solving disputes, both before and after the strike stage. But not enough.

PUBLIC OPINION CONDEMNS STRIKES

It is probably true that no one has yet offered a panacea for labor-management disputes. But strike stoppages in defense industry stand condemned in the court of public opinion. Another means must be found for settling the disputes.

Perhaps the government must alter its view of the situation. Whatever may be required, we still have the kind of democracy where the great mass of average people can and do understand many of the fundamental issues. And we still have enough of democracy to make the will of the people, when it becomes generally and publicly known, a demand which none of our leaders should feel safe in disobeying.

LETTERS

'YOUR PAPER HAS BEEN VERY VALUABLE'

Virginia Public Service Co.
Alexandria, Va.

Editor:

My company does not merchandise appliances but we do everything possible to promote appliance sales through the 250 electrical dealers who operate in the territory. In such an operation, your paper has been very valuable to me because I am able to keep posted on the news of the entire appliance industry.

I think you are rendering a very valuable service to the manufacturers, dealers, distributors, and utilities. I particularly like the news stories which you publish in each issue about new dealers, new locations, etc. Every dealer likes to see his name in print, especially in a national trade publication. Yours is one magazine that while being national in scope does not forget that the industry is made up of thousands of operations, each of whom regards his business as a very important one.

I appreciate the cooperation you have shown my company by quoting monthly sales results and trust that your general policies will be adhered to in the future.

E. T. MOORE, Sales Promotion Manager

'THESE MANUALS ARE THE BEST'

5916 SE Bush St.
Portland, Ore.

Sirs:

I recently was fortunate enough to run across your Master Service Manuals for Household Refrigeration in the library of this city. These manuals were copyrighted 1937 and 1938.

After reading through as much of the material as I had time for I was convinced that I must have a copy of each the No. 1 and the No. 2 manuals if they were still available.

Of all the materials, including a course, that I have reviewed on refrigeration, I sincerely believe that these manuals are the best.

With anticipation of owning manuals on household refrigeration, Nos. 1 and 2 I am

JOHN E. NEELEY

SUBSCRIPTION RATES FOR SHANGHAI

Shanghai, China

Sirs:

I am interested in your newspaper AIR CONDITIONING & REFRIGERATION NEWS. Please be so kind as to send me a copy of same as a sample and let me know the subscription rates for China.

N. KUZMINOFF

Appointments & Promotions

Hotpoint's Headquarters Home Economics Staff

MISS CLARA JAHN

MISS CLOE BOYLE

MISS KATHRYN JAMESON

* * *

Clara Jahn Directs Home Economists

CHICAGO—Miss Clara Jahn has been appointed director of the Hotpoint home economics department, reports R. W. Turnbull, vice president. She succeeds Miss Mildred Hickman, who has resigned to be married.

As home economics director, Miss Jahn will supervise all of the company's home economics activities, including the Hotpoint Test Kitchens at Chicago, Hotpoint Skillet Club training classes for salesmen and home economists, as well as directing the work of Hotpoint's entire staff of field home economists.

For the past two years Miss Jahn has been manager of the Hotpoint Test Kitchens. She spent several years on the home service staff of Northern States Power Co., before joining Hotpoint as Minneapolis district home economist. During the past few years, Miss Jahn has traveled extensively. Just a year ago, she made a special trip to the Hawaiian Islands, to conduct the Annual Hotpoint Electric Cooking School for the Honolulu Star-Bulletin.

Hotpoint's home economics personnel has been expanded with the appointment of Miss Cloe Boyle and Miss Kathryn Jameson to the Chicago headquarters staff.

Miss Boyle comes to Hotpoint from Huron, S. D., where she has been supervisor of home economics activities in the Huron district of Northwestern Public Service Co.

Miss Jameson for the past eight years has been a member of the home service staff of Commonwealth Edison Co., Chicago.

McNamara Now With Anemostat In Detroit

DETROIT—George McNamara has been appointed to the sales engineering staff of Anemostat Corp. of America's Detroit office to assist George Shackleford, Detroit representative, in serving architects, engineers, and contractors in the eastern Michigan area. Mr. McNamara has had a number of years' experience with Eric F. Hyde, mechanical engineer, and more recently as a member of the mechanical engineering department of Giffels & Vallet, Inc., architects.

Freitas, Jensen Take Air Filter Line

MADISON, Wis.—Leo J. Freitas and Albert O. Jensen have been appointed representatives of Research Products Corp.'s air filter line. Mr. Freitas, with headquarters in Dallas, Tex., will cover the state of Oklahoma, while Mr. Jensen, Omaha, Neb., will handle sales in Omaha and Council Bluffs, Iowa.

Walter Directs Sales For Bowman Co.

RICHMOND, Va.—E. A. Walter has been named sales manager of the appliance division for Louis O. Bowman, Inc., recently appointed Crosley distributor. Mr. Walter had previously worked this territory for Kelvinator and Westinghouse.

Sample Joins Staff at Emerson Factory

ST. LOUIS—Howard Sample, formerly manufacturer's representative in northern Texas for Emerson Electric Mfg. Co., has been named assistant manager of fan sales.

Thornton Becomes Distributor

DALLAS, Tex.—George W. Thornton of Buffalo Engineering Co. has assumed the distributorship for U. S. Air Conditioning Co.'s line of air conditioning units, evaporative coolers, and fans.

Kelvinator In Staunton

STAUNTON, Va.—Local outlet of Western Auto Stores has taken on the Kelvinator appliance line.

ALUMINUM, DEFENSE, AND YOU

ALCOA

2

ANOTHER MONTH!

DEFENSE IS GETTING its aluminum; but priorities are in effect, and many regular users of aluminum are having to do without.

YOU, SIR, may be one of those who have to wait. It *is* a hardship. It *is* awkward. Customer by customer, we are intimately and acutely aware of the dislocation of plans caused by this temporary shortage of metal.

BUT YOUR ALUMINUM *is* on the way. It is a promise.

IN MARCH we produced more than 44,000,000 pounds of new metal. That is 63% more than in the average month of 1939. Enormous new plants, already completed, made this possible.

STILL MORE producing units are coming in as fast as brick and steel and equipment can be put into place. We are getting superb co-operation from suppliers. A capacity of 60,000,000 pounds a month is definitely programmed, by day and date, at this writing.

PRAY FOR RAIN. Good precipitation assures the water power that we need to keep breaking production records. Production of aluminum depends on getting the power.

TWO POUNDS OF ALUMINA are needed for each pound of aluminum. We are jumping Mobile, Ala., alumina refining facilities from a million to 2,200,000 pounds a day. That requires among other equipment, 64 precipitating tanks, 24 feet in diameter, standing 80 feet high. They would hold all the wheat grown in Wisconsin.

FORGING EXPANSION is an example of swift increase in fabrication capacity. On the first of January, 1940, we had 47 hammers, presses, and upsetters. Today: 110. Increase: 134%. We await delivery on 26 more units, which will make a total of 136, an increase of almost 200%. Falling weight of the hammers alone is over three times that of January 1, 1940.

ROLLING CAPACITY for wire, rod, bar, and shapes has been increased 2½ times. Expansion in sheet rolling capacity was reported to you last month.

COMPARED TO THE fifty-some years it took the use of aluminum to reach 1939 levels, you might say that the industry is having to more than duplicate itself over the week end.

THESE PARAGRAPHS are factual evidence of our determination that no one shall have to forego the things aluminum does best one minute longer than we can help.

IT IS A PROMISE.

ALUMINUM COMPANY OF AMERICA

G-E Promotes 3 Men at Fort Wayne Plant

FORT WAYNE, Ind.—C. H. Matson, R. H. Chadwick, and E. J. Thomas have been advanced in the local General Electric Co. plant as the result of promotions announced by Works Manager M. E. Lord.

Mr. Matson, now assistant manager, joined G-E in 1909 as a draftsman, later becoming head of the factory engineering department, and general superintendent.

Mr. Chadwick has been named assistant to the manager in charge of engineering. He enrolled in the Test Course in 1912, following graduation from Brown university. In 1926 Mr. Chadwick was appointed engineer of the transformer department.

The new engineer of the specialty transformer department, Mr. Thomas, joined G-E immediately after graduation from Wisconsin University in 1924. In 1926 he entered the transformer engineering department.

'Yehudi' Works His Magic For St. Louis Electrical Dealers at Home Show

ST. LOUIS—That evanescent little gentleman "Yehudi"—who shuts off the light in the refrigerator, minds the temperature in your room, and switches off the radio when you drive under a bridge—was given full credit for electrical magic by the St. Louis appliance dealers displaying products at the Home Show which opened here April 12.

The "Yehudi" idea was a tie-in with the St. Louis world premiere of a motion picture starring Jerry Colonna, set for the same date as the show opening. All dealers shared the cost of a half-page newspaper advertisement headlined: "Who is responsible for the many magical facilities in your refrigerator?—Yehudi!" The copy explained that Yehudi keeps the butter soft enough for spreading in the 1941 refrigerator line, switches off the light, automatically defrosts, keeps vegetables fresh, and does a hundred other jobs.

Five distributors supplying dealers cooperating in the show also adopted a new promotional technique. In addition to having salesmen from each dealership on duty for a set number of hours at a distributor-provided display, a crew from the distributor's service department was on duty to answer questions. Cards from each dealership were shown inside all refrigerators, and in the ovens of ranges.

Lang, Dallas Dealer, Installs Kitchen

DALLAS, Tex.—Encouraged by his last year's sales of all-electric kitchen ensembles, Robert E. Lang, owner of Robert E. Lang Appliance Store, local General Electric dealership, has installed a complete kitchen unit in his showroom.

Guaranteed Pure and Dry . . .

DU PONT

Artic The Preferred METHYL CHLORIDE for Service Work

REG. U.S. PAT. OFF.

PROMPT SHIPMENTS From Stock Points · COAST-TO-COAST Distribution

DU PONT

For information about nearest source of supply, write to:
THE R. & H. CHEMICALS DEPARTMENT
E. I. DU PONT DE NEMOURS & CO. (INC.)
Wilmington, Delaware
or National Ammonia Division
Frankford P. O. Philadelphia, Pa.

Mechanical Truck Units Get Ice Cream Firm's OK

Dairy Which Has Used Self-Contained Units For 8 Years Claims Savings of $100 a Year Per Truck By Eliminating Lost Time & Waste Ice Cream

ST. LOUIS—Eight years of experience in operating self-contained, mechanically refrigerated ice cream trucks has convinced Pevely Dairy that this type of unit is the most satisfactory answer to the problem of preserving its products during transit and delivery.

Like other large-scale ice cream plants, the Pevely Dairy, which operates more than 200 trucks, has had ample opportunity to study the operating costs and efficiency of each type of refrigeration mechanism.

The garage supervisory force, under direction of E. F. Bredenkoetter, superintendent, has used at various times all types of truck refrigeration, including cold-plate ammonia systems, salt and ice, and dry ice. During the last eight years, however, every gallon of ice cream has been protected through its transit life by a "two-way" refrigeration system which insures quality, prevents loss, and lowers costs.

"We chose the self-contained type of refrigeration in 1932," Mr. Bredenkoetter says, "even though it was then a new idea in terms of heavy-duty trucks.

"We were then using standard salt and ice refrigerating methods, which often meant tie-ups in time, overlarge loss in ice cream gallonage, and unsatisfactory results from several standpoints. Costs were high, and we were frequently forced to delay delivery while a truck exposed to hot summer weather returned to the garage for a fresh charge of ice and salt."

"We decided to try mechanical refrigeration of a type which could operate automatically while the trucks were in use. We investigated all systems thoroughly, then adopted the refrigerating methods we have used without trouble ever since."

In 1932 one of the smaller trucks, a ton-and-a-half Ford, was chosen for an experimental six months' test, and a 2-ton Copeland refrigerating plant was installed in the rear of the body. In use daily over a 66-mile route, this unit proved entirely satisfactory, cutting costs and product loss so markedly that the Pevely plant immediately ordered similar systems for its entire fleet of seven 2-ton delivery trucks.

All Pevely trucks used for ice cream are now equipped with 2-ton Copeland refrigerating systems installed at an average cost of $400. The refrigerating compressor, condenser, and two electric motors of 2 hp. each are mounted behind the cab, under the front of the body.

Space for equipment measuring 6½ feet by 30 inches was provided by building a heavy platform of 2 x 4 timbers. The metal side panels of the body are pierced to provide cooling grilles, front and side. The entire platform is mounted on springbolts which cut down jarring and shocks when the trucks are traveling over rough streets.

Cooling is developed in two ways, both of which consistently maintain zero temperatures in the truck interior. First, for use while the unit is in motion, there is a 110-volt heavy-duty generator just inside the hood and next to the motor. This generator is mounted on strap iron supports designed by Mr. Bredenkoetter. A special built-in timing gear takes the power from the fan belt on the engine, reduces its speed, and transfers it to a 1-inch belt which operates the refrigeration generator.

No power takeoff was considered in the plan, inasmuch as this would cause the refrigerating mechanism to operate at a speed too high for satisfactory results.

Pevely ice cream trucks keep motors running during the entire day except where laws prohibit. Generator power developed is delivered directly to the motor through the truck battery.

Temperature is controlled by thermostats in the truck bodies and the system may cycle from 20 to 40 times during the average 8-hour day.

The "two way" feature which Mr. Bredenkoetter has devised lifts the refrigerating load from the engine during the night hours, while trucks are being loaded in the plant. In the compressor compartment is another 2-hp. motor—a 220-volt unit operated from power lines in the garage. When the truck "ties up" for the night's loading, the power load is switched to an electrical outlet on the wall, and the trucks are brought down from their usual maximum of 10° to 0° F.

"We provided this extra power for economy reasons," Mr. Bredenkoetter stated. "Use of company power saves wear on the other motor for all but the 8 hours running time in delivery use."

"Freon" is circulated through two finned coils in the roof of the body, with a direct return. Because of extreme cold and ensuing frost, the bodies are defrosted every 48 hours in the garage. There are both thermostatic and manual controls on the compressor which allow the driver to begin defrosting the body by turning a switch as soon as his load is gone. Bodies are insulated with 4 inches of Dry-Zero kapok, and lined with a double thickness of galvanized metal.

Though Pevely trucks make daily rounds amounting to as much as 100 miles a day, there has been almost no repair cost for refrigeration, Mr. Bredenkoetter pointed out. Beyond replacement of a few electrical parts such as armatures, wiring, and commutators, there have been no new refrigeration parts.

Moreover, when trucks were taken on a 20 and 40-mile test run with and without operating the compressor, there was no appreciable difference in gasoline consumption. Most important, an estimated $100 per year per truck in lost time and waste ice cream has been eliminated.

Pevely Dairy maintains its own refrigeration service department, and calls upon plant refrigeration engineers for setting of the truck cooling systems from week to week.

Refrigeration Sells For This Bakery

Air conditioning and refrigerated display cases mark the modern selling methods used by Wenner's Bakery & Delicatessen in Casper, Wyo. Frigidaire display case merchandises whipped cream products throughout the year. Large commercial box handles delicatessen items.

'Largest' Warehouse Has Freezer

McKEESPORT, Pa.—Freezing facilities and refrigerated storage are provided in the wholesale grocery warehouse here owned by Potter McCune Co., which is said to be the largest one-story structure of its type in the country, having 80,000 sq. ft. of floor space.

The 15 x 9-foot freezer is cooled by a 7½-hp. York "Freon" compressor, maintaining 0° F. This freezer room has pipe-coil evaporators arranged in three banks, separately valved to permit operation of, say, two banks in event of breakdown in the third.

Refrigerated storage section is held at 35° F. by a 5-hp. "Freon" unit connected to fan coolers. Storage rooms are insulated with cork, and condensing units are placed adjacent to the rooms for compactness.

Refrigeration equipment was installed by York Ice Machinery Corp.

Henry Valve Co. Issues New Catalog

CHICAGO—Henry Valve Co. has issued a new catalog, illustrating and describing its complete line of valves, strainers, dryers, for air conditioning and refrigeration.

Several new items are shown for the first time in this catalog: nonferrous alloy valves to meet government specifications; snap-action diaphragm relief valves; packless, charging, purging, or drain valves; manifolds; compressor shut-off valves, and five new dehydrators.

Henry diaphragm packless valves can now be furnished with solder connections for iron pipe size tubing. They can also be furnished with seat discs, seat bushings, and diaphragms of several different materials and designs for special applications. These include refrigerant charging boards, high vacuum service, and many different fluids such as liquefied petroleum gases, oil, compressed air, water, steam, oxygen, gasoline, and the like.

Copies of the catalog may be obtained by writing to the company.

Firestone Dealer Adds Appliance Dept.

CASPER, Wyo. — The Firestone Home & Auto Supply Co. has added a new appliance and service department featuring refrigerators, washing machines, radios, and ranges. The new department will be managed by Walter "Bud" Hause, formerly with the Schulte Hardware store here.

Lines that will be carried include the new Firestone refrigerators and other appliances, and Stewart-Warner refrigerators.

FROM
1/4 to 25 TONS
OF REFRIGERATION

Brunner Refrigerating and Air Conditioning equipment comprises air and water cooled condensing units for practically all types of commercial applications up to and including 25 tons of refrigeration. Catalog promptly on request. Brunner Manufacturing Co., Utica, N. Y., U. S. A.

BRUNNER

FOR YEARS THE SYMBOL OF QUALITY

We Manufacture Only
Food Storage Lockers
Our entire time is devoted to the manufacture, research and development of lockers. Write for particulars.
Master Refrigerated Locker Systems, Inc.
121 Main St. Sioux City, Iowa
200,000 Masterbuilt Lockers In Use

COMPLETE LINE
of White-Rodgers Refrigeration Controls will solve your refrigeration and air conditioning problems. Write for condensed catalog.
White-Rodgers Electric Co.
1211 Cass Ave., St. Louis

Condensing Units for every commercial refrigeration and air conditioning requirement . . . Also packaged air conditioners.
CURTIS REFRIGERATION AIR CONDITIONING AND COMMERCIAL
Established 1854
Curtis Refrigerating Machine Co.
Division of Curtis Manufacturing Co.
1912 Kienlen Ave., St. Louis, Mo.

Tested in the Laboratory and Proved in the field
DAVISON'S
SILICA GEL
The Drying Agent that's Master over Moisture

That's the real secret of the industry's overwhelming preference for Davison's Silica Gel. In actual use, manufacturers and service men have proved that Silica Gel takes up from 1½ to 2 times as much moisture as other drying agents, with a speed unequalled by any other material. It removes acids and corrosive compounds and does not dust or powder under any service conditions. A Silica Gel charged dryer can be left on the job permanently—a bulwark against moisture. That's the kind of drying agent you need—one that's truly moisture's master.

SILICA GEL GIVES YOU ALL 5
GREATER CAPACITY
BETTER CLEAN-UP
INSTANTANEOUS ACTION
ACID REMOVAL
NO DUSTING

For the benefit of field-proved efficiency — specify Silica Gel charged dryers and Silica Gel for refill. Your jobber has both.

THE DAVISON CHEMICAL CORPORATION
Silica Gel Department
BALTIMORE, MARYLAND

HUSSEY PURE LAKE COPPER • HUSSEY PURE LAKE COPPER

"It's the Best you can use and Easy to Work"

HUSSEY PURE LAKE COPPER

Whatever you demand of copper—easy workability . . . corrosion resistance . . . forming qualities . . . easy soldering, brazing, welding—you'll find them all in *Hussey* Copper. It's Pure Lake Copper—the best you can use. Call *your* local Hussey warehouse for quick service.

HUSSEY
C. G. HUSSEY & COMPANY
(Division of Copper Range Co., Miners and Refiners of Pure Lake Copper)
Rolling Mills and General Offices: PITTSBURGH, PA.
WAREHOUSES IN CHICAGO, CINCINNATI, CLEVELAND, PITTSBURGH, NEW YORK, PHILADELPHIA and ST. LOUIS

Central N.Y. R.S.E.S. Holds Annual Banquet

Committee in charge of the banquet included (left to right) President Fritz Harder, Secretary Henry Jenda, Mrs. Weldon Andrews, Maurice Schwartzberg, and Robert Wilson.

* * *

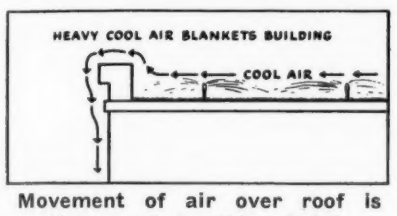
LIVERPOOL, N. Y. — Fifty-five members of the Central New York chapter of Refrigeration Service Engineers Society, their wives, and friends attended the group's recent annual banquet held at Aureli's here, which was followed by professional acts and movies of the 1941 All-Industry Show.

Committee in charge of arrangements consisted of: Mrs. Weldon Andrews, president of the Ladies' Auxiliary, Maurice Schwartzberg, Fritz Harder, and Bob Wilson. Ted Glou of Central Service Supply Co. served as master of ceremonies.

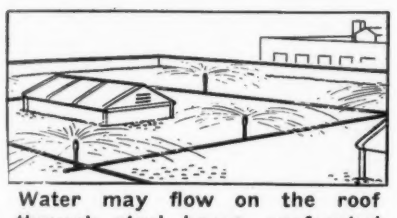
Prizes were donated by City Electric Co., Westinghouse Electric Supply Co., Best Ice Cream Co., Central Service Supply Co., the ladies' auxiliary of RSES, and Mrs. Ivan Thorn.

Roof Sprinklers Reduce Air Cooling Load

PITTSBURGH—Tips on how the total load on an air conditioned building can be reduced by evaporating water from the surface of the roof are offered in a new bulletin recently published by the tar and chemical division of the Koppers Co. The bulletin points out that roof can be cooled "in the same way the human body is cooled—that is, by the direct evaporation of moisture."



Movement of air over roof is diagramed in this sketch.



Water may flow on the roof through steel boxes, perforated pipe, or sprays, as shown above.

The Koppers Co. has found that the refrigeration system used for air conditioning is usually smaller and less costly to operate if the roof is cooled with water. The water from the condenser can be piped to the roof and used for cooling, and, where water is expensive or scarce, it can be re-cycled to the air conditioning equipment.

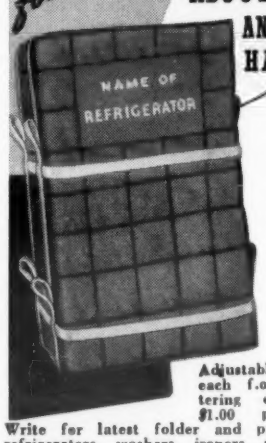
"It has been found," the bulletin states, "that ½ inch of water on the roof will reduce the peaks of heat on the top floor of a building by 10° F. to 20° F. during the summer.

"Maximum cooling is obtained by keeping the slag or gravel surfacing of 4 or 5 ply tarred rag felt and pitch roofing continuously damp either by spraying from a permanently installed system or by permitting water to trickle over the slag or gravel surfacing from a perforated water line.

"Lawn sprinklers with the nozzles adjusted to throw a flat spray have been used also. In the hottest weather, when an economical spray system is used, approximately ⅓ gallon of water per sq. ft. per day is required for maximum cooling . . . and . . . over 90% of the heat ordinarily entering through the roof can be excluded by the use of the least quantity of water which will continuously keep the entire surface damp."

The Koppers Co. recommends that roofs cooled in this manner be constructed of materials which are not adversely affected by prolonged contact with water. The bulletin presents a "typical specification for Koppers water-cooled roofs."

a Masterpiece for Economy
MASTERCRAFT ADJUSTABLE PAD AND CARRYING HARNESS



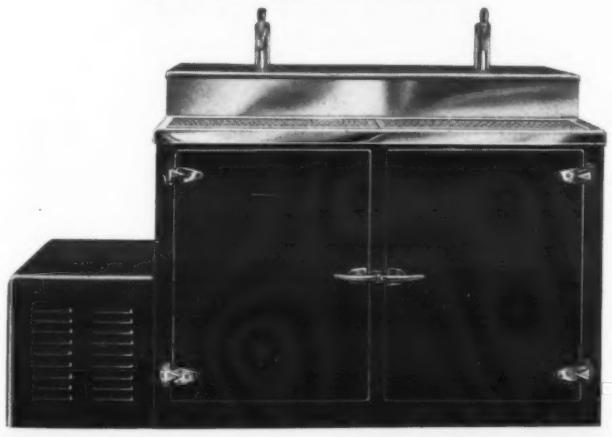
Efficient, sturdy and economical. Provides safer handling and thorough protection of refrigerators. Pad and harness are separate units and both adjustable to practically all styles and sizes of cabinets.

Adjustable Pad $10.00 each
Adjustable Harness $6.50 each f.o.b. Chicago. Lettering on pad at only $1.00 per order extra.

Write for latest folder and prices on pads for refrigerators, washers, ironers, ranges, radios, etc.

BEARSE MANUFACTURING COMPANY
INCORPORATED 1921
3815-3825 Cortland Street, Chicago, Illinois

THE LA CROSSE
IDEAL DIRECT DRAW



This nationally recognized Direct Draw is available in two, three or four keg models as well as in combinations with facilities for bottle beer storage.

There is a reason why dealers are daily turning to La Crosse Direct Draws.

Write Department A. R.-41M for complete literature today.

LA CROSSE NOVELTY BOX MFG. COMPANY
LA CROSSE, WISCONSIN

The Service Man's Notebook

By Henry Kronke

Mr. Kronke, a service engineer in New York City, compiles useful, handy data for use in his work as he finds a repeated need for certain kinds of information. The editors suggest that service and installation engineer readers of the NEWS cut these tables out for their own notebooks.

DAIRY REFRIGERATION

FRESH MILK:
Retail Storage Temp. ..... 40° F.
Wholesale Storage Temp...32–36° F.
Spec. Heat Before Freezing = 0.90
Spec. Heat After Freezing = 0.47
Latent Heat = 127
% Water = 88
1 Gal. = 8.61 Lbs.

BUTTERMILK:
Retail Storage Temp..... 40° F.
Wholesale Storage Temp...32–40° F.
Spec. Heat Before Freezing = 0.92
Spec. Heat After Freezing = 0.48
Latent Heat = 131
% Water = 91

CREAM:
Retail Storage Temp..... 40° F.
Wholesale Storage Temp... 32° F.
Spec. Heat Before Freezing = 0.68
Spec. Heat After Freezing = 0.38
Latent Heat = 84
% Water = 59

BUTTER:
Retail Storage Temp..... 45° F.
Wholesale Storage Temp... 0–40° F.
Spec. Heat Before Freezing = 0.60
Spec. Heat After Freezing = 0.34
Latent Heat = 20
% Water = 14

EGGS IN SHELL:
Retail Storage Temp.....38–40° F.
Wholesale Storage Temp... 32° F.
Spec. Heat Before Freezing = 0.76
Spec. Heat After Freezing = 0.40
Latent Heat = 100
% Water = 70

Raw milk comes from cow at 95° F. Pasteurized milk comes from pasteurizer at 145° F. Cooling tank at 40° F. will cool milk from 95° to 50° F. in 1½ hours if agitated, in 2½ hours if not agitated. It takes 4½ gallons of 40° F. water to cool 1 gallon of milk from 95° to 50° F.

An aerator with an initial brine of 20° F. and a final brine of 35° F. for cooling milk from 95° to 40° F. requires 0.18 sq. ft. surface and for cooling milk from 145° to 40° F. requires 0.22 sq. ft. surface per gallon of milk cooled per hour. To cool cream requires 30% more surface.

One square foot aerator surface equals 4 linear feet of 1-inch tubing, 3 feet of 1½-inch tubing, 2 feet of 2-inch tubing, or 1⅓ feet of 3-inch tubing.

Three and one-half pounds of flake calcium chloride to 1 gallon of water will give 1.167 gallons brine with —11.9° F. freezing point, 1.218 spec. gravity, 0.7 spec. heat, and a weight of 10.15 lbs. per gal. of brine. Four gallons of brine entering at 20° and leaving at 35° F. cool 1 gallon of milk from 95° to 40° F.

Information to be given on liquid cooling, pumps, brines, eutectic points of solutions, and heat leak will be helpful in selecting proper equipment.

U. S. Zinc Production Will Be Sufficient, Institute Claims

ST. LOUIS—Production of zinc in the United States is sufficient to meet all needs of the national defense program and the greater part of non-defense requirements, the American Zinc Institute reported at its twenty-third annual meeting here.

Production increased from 478,000 tons in 1938 to 724,000, an all-time record, the report showed.

Estimated production in 1941, together with anticipated imports, is expected to make available 900,000 tons.

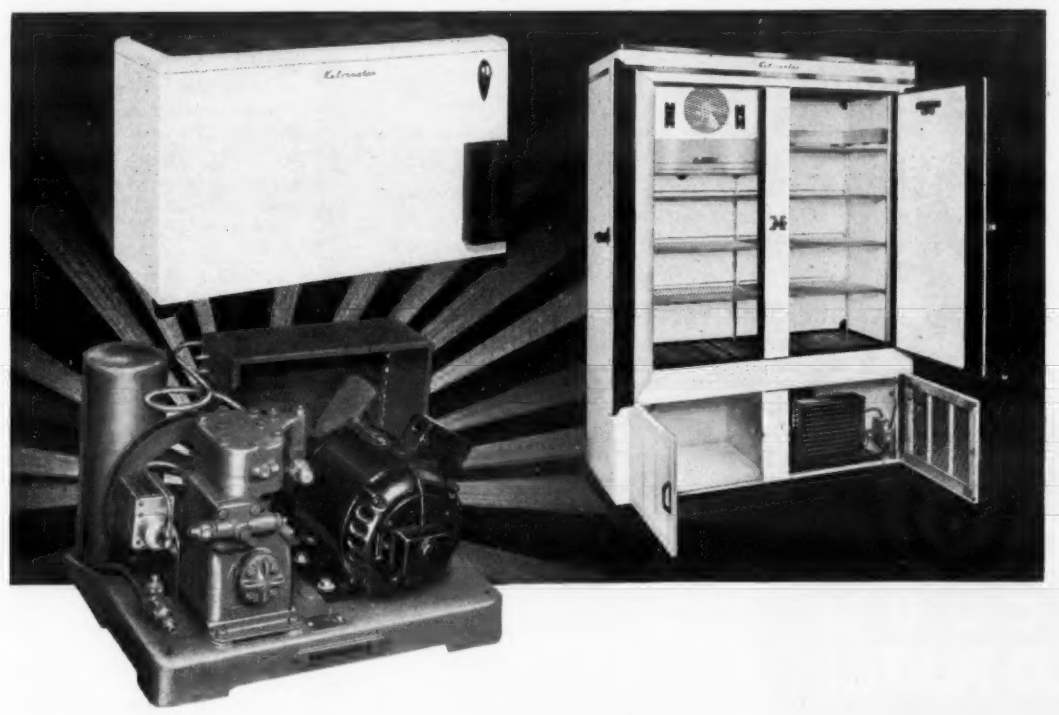
The report pointed out that zinc is used in many defense items, including cartridges, shells, fuses, airplane parts, naval construction, die castings, and cantonment buildings.

"Britain is looking to the United States for ever-increasing quantities of zinc," the report stated. "The tonnage which we may be called upon to furnish Britain is likely to greatly exceed the 46,000 tons which we shipped to the United Kingdom and British Isles in 1940."

Further increases in the price of the product, now more than 47% above 1939, "would not serve the public interest," Paul M. O'Leary, an official of the Office of Price Administration, told the zinc men.

Swire Store Adds G-E

ALBANY, N. Y.—The Swire Store here has been named dealer for General Electric refrigerators.



Get that EXTRA Business with Kelvinator's Commercial Line!

Any refrigeration retailer or service man can find many opportunities for EXTRA profits in selling and installing Kelvinator Commercial Equipment.

In almost every community in the country new and expanding businesses are creating the greatest demand for commercial refrigeration equipment that the industry has known for years.

Kelvinator's Commercial Line provides the ideal set-up for both the refrigeration retailer and the service man. It concentrates on equipment most in demand and most easily sold, and simplifies selling problems by eliminating small-volume models.

The line includes ready-to-run reach-in refrigerators, beverage coolers, frosted food cabinets, and a full range of air and water cooled refrigerating units. In addition, Kelvinator supplies a complete line of dependable refrigeration parts and supplies.

Mail the coupon for details!

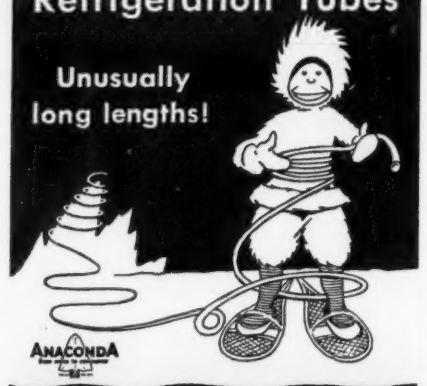
Get More— Get KELVINATOR

Kelvinator Commercial, Parts and Service Division, Nash-Kelvinator Corporation, Detroit, Michigan

Gentlemen: I want to know more about Kelvinator's ☐ Commercial Line. ☐ Refrigeration Parts and Supplies.

Name .....
Firm Name.....
Address .....
City ..... State .....

K-118

Anaconda Copper
Refrigeration Tubes
Unusually long lengths!

ANACONDA
THE AMERICAN BRASS CO.
FRENCH SMALL TUBE BRANCH
General Offices: Waterbury, Conn.

ALCO Specify ALCO Engineered Refrigerant Controls for Maximum Performance
ALCO VALVE CO. ST. LOUIS, MO.

Operating and Service Methods For Dry-Expansion Counter Freezers

By Arch Black and Dean C. Seitz

Editor's Note: This is one of a series of articles on the servicing of counter-type ice cream freezers, which have been appearing in the issues of AIR CONDITIONING & REFRIGERATION NEWS in the past few months.

This is the second instalment of the section giving information on Mills counter freezers.

Mills Two-Way Valve

On Fig. 35 the two-way valve will be noted, and the details of this can be further seen from Fig. 36.

The purpose of the two-way valve is to provide refrigeration in either the freezing cylinder or the hardening cabinet, utilizing the full capacity of the compressor for either purpose.

Fig. 36 illustrates the valve that later replaced an earlier model which was originally used, but the authors of these articles are of the opinion that the earlier type valve could be replaced by that shown, by use of an adapter plate.

In Fig. 36 the valve is in the "off" position, the operating cam engages in the yoke and moves the stem to the horizontal position. The indicator on the valve handle indicates the position, and the over-center spring insures the valve being either in the fully open or closed position.

The stem of the yoke is connected to the valve stem by a pin, which provides a flexible joint allowing the disc to center evenly. The stem, which is a part of the disc, holds the disc on the other end between the seats, and is held in position by the nut on the other end of the stem, the fluted valve disc guide being interposed between the two discs, with a gasket provided at each end. The other end of the bellows is soldered to a brass ring and held in position by a gasket and two pins, through the open end cover.

PACKING AROUND STEM

Packing is provided around the yoke stem and held in position by the open end cover to prevent moisture entering the bellows chamber. The bellows is also coated with refrigerating oil.

It is quite possible that small air bubbles will form around the yoke shaft, due to the pump action when the valve is moved back and forth, without a leak being present. It is necessary to use a leak detector lamp to make sure that a gas leak is present before disturbing the valve, or if a torch is not available, the use of oil applied around the stem, making sure that the bubbles continue to form after the valve has been allowed to remain in the "on" position several minutes.

If it has been definitely determined that a leak is present, the system should be pumped down, the valve removed by disconnecting all the flared fittings and sealing them with blind plugs. Then remove the four nuts which hold the valve on to the plate. It is not necessary to remove the valve handle and over-center spring device.

The valve must be held securely either by a large monkey wrench or a vice, after which remove the closed end cover, holding the yoke tightly; the nut and gasket holding the valve seat into position can then be removed. Then remove the open end cover, after which the valve yoke, bellows, and cover assembly can be removed and replaced by the valve yoke, bellows, and cover assembly.

Be sure to use new gaskets, when reassembling, and hold the yoke securely with a wrench when tightening the nut which holds the seat in position. If the yoke is not held securely, it is quite possible that the bellows will be distorted and possibly ruptured.

After the assembly has been completed, the liquid line should be opened and the valve placed on the "on" position, after which a heavy gas pressure should be present in the valve and a thorough inspection made for gas leaks. If the assembly is found tight, it is ready to be put into operation. Try the valve several times to make sure that it is free, does not bind, and that it functions properly before leaving the job.

Fig. 36 - - Parts of the Two-Way Valve

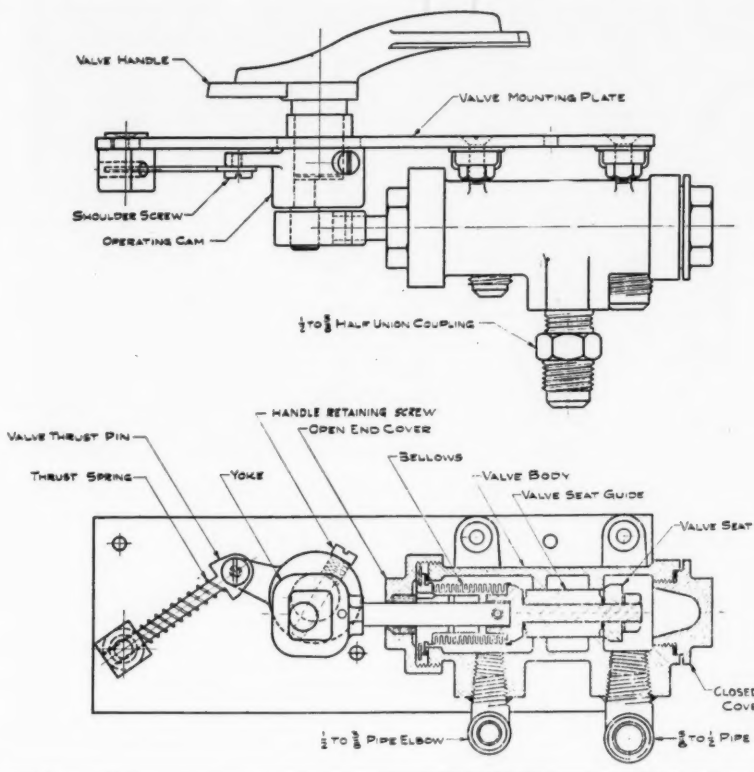
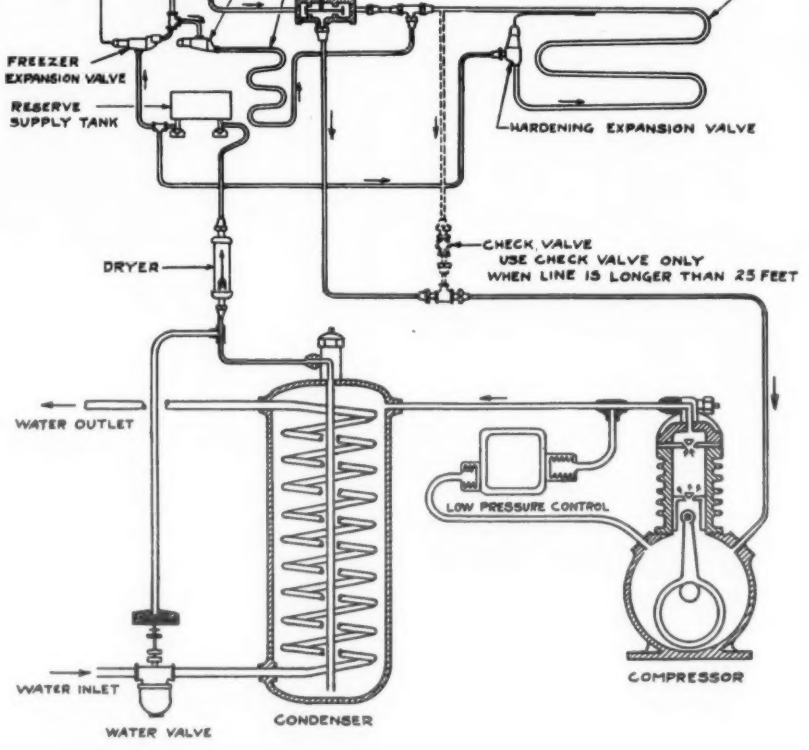
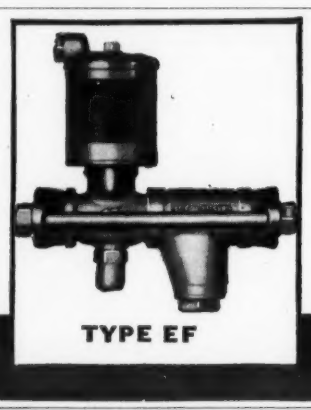


Fig. 35 - - Diagram of Earlier Mills Freezer

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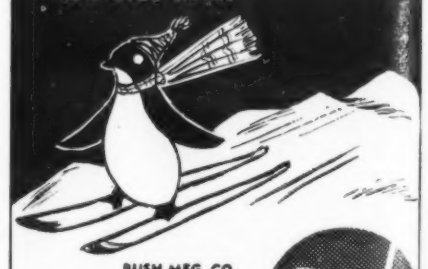
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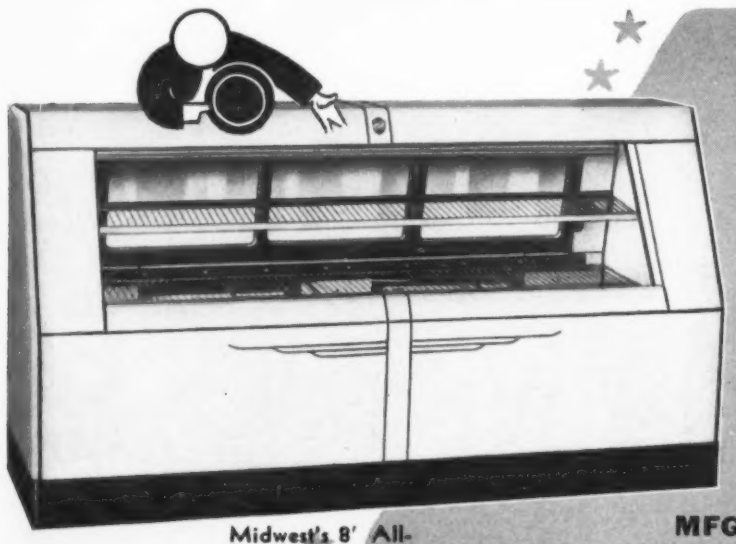
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Frigidaire Engineers Trace Progress In Developing a Machine Gun Plant

DAYTON, Ohio — Machine guns which will begin to come from production lines in June in the new ordnance plant erected by Frigidaire division, General Motors Corp. here, will be manufactured on a volume basis that required the development of an entirely new type of production technique, according to company officials.

Some machine guns already are being produced, and piece parts have been in the process of manufacture for several weeks. Full speed in production is expected to be reached by early fall when it is estimated that 2,100 machine guns will be completed monthly.

Stocks of many of the parts necessary for the construction of machine guns are being accumulated, company officials point out, through the operation of a "pilot" plant in which operators are being trained to run machines installed in the gun plant.

Operators have been in training for some time performing tasks which will be their special duties when the ordnance plant is in regular production.

The production technique developed by Frigidaire is much different from traditional methods used in regular gun manufacturing plants. During preparations for machine gun production it was found that these improvements over former methods were vital to establish a rate of production that would assure rapid completion of the guns Frigidaire is building.

Many slow manual operations were a part of the traditional methods employed in fabricating machine guns.

Because of the large volume of guns to be produced, however, manufacturing units cannot depend on the work of regular gunsmiths because of the limited number of these craftsmen available.

Development of new ways of accomplishing former hand operations was necessary. As a result, precision manufacturing is now a reality with the use of modern machine methods with which guns are produced and assembled without hand fitting operations which previously were required in machine gun manufacture.

ACCURATE DRAWINGS NEEDED

The United States Army Ordnance Department, located at Springfield, Mass., deserves a great deal of credit, according to Frigidaire officials, for the accurate drawings of gun parts which were prepared so that production could be obtained with modern manufacturing machines.

While the original design of the type of machine gun being produced by Frigidaire antedates the first world war, a number of improvements have been introduced in the gun's construction and operation since that time. Following the first world war, however, there was no extensive production of this type of gun. As a result, the small quantities required were fabricated individually by regular gunsmiths whose experience in making guns took the place of blueprints which are a necessity when similar guns are produced in volume by machine.

When it became necessary for blueprints to be made of each of the gun parts, army ordnance engineers studied the changes which had been developed in the gun design and from this completed working drawings to be utilized in producing machine guns on a quantity basis.

The accuracy of these drawings is illustrated in the experience of Frigidaire's ordnance plant where mechanics, without special tools, constructed many of the parts for the complete machine gun. Microscopic accuracy is essential in turning out parts for such a complicated mechanism so it was necessary for every part to be made with dimensions exactly as shown on the blueprints.

FIRST TESTS SUCCESSFUL

The skill and exacting efforts of army ordnance engineers was amply demonstrated with the successful trial of the first gun produced from blueprints they had supplied. This test permitted the production of piece parts to proceed as rapidly as machine tools were received.

With an effective range of more than four miles, the machine gun being produced in Frigidaire's ordnance plant is a fixed type, 50 calibre weapon that has a guaranteed firing rate of up to 650 shots a minute. Stringent firing tests will be given each gun before it leaves the plant in a specially built testing range.

When Frigidaire first began plans to cooperate in the manufacture of machine guns, production was scheduled to be started from seven to nine months after the plant itself was completed. Some production, however, already is being obtained as equipment is installed, it is announced, which moves ahead by several months the date mentioned in contract requirements for production to begin.

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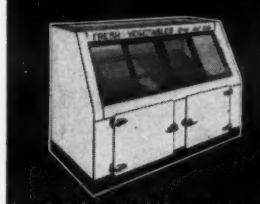
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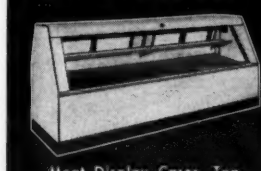
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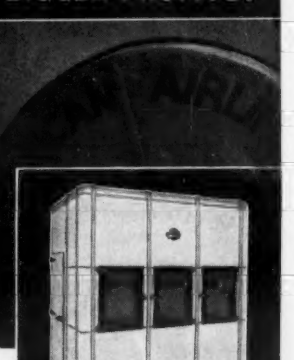
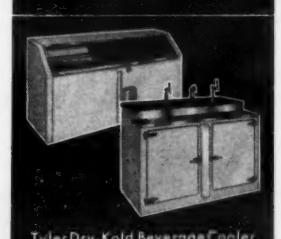
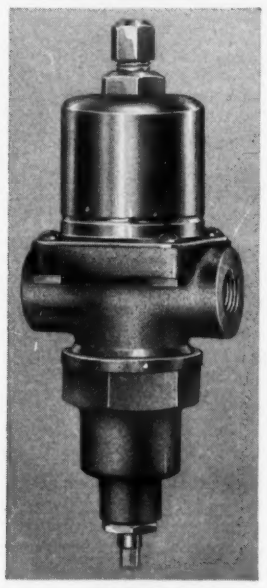

Sectional Steel-Clad Walk In Coolers.

Tyler Dry-Kold Beverage Cooler and Draw-Kold Beer Dispenser.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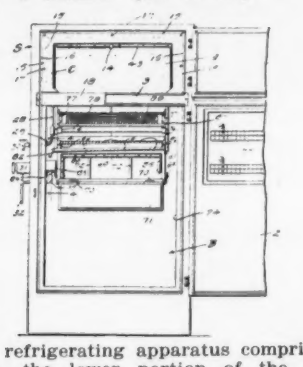
PATENTS

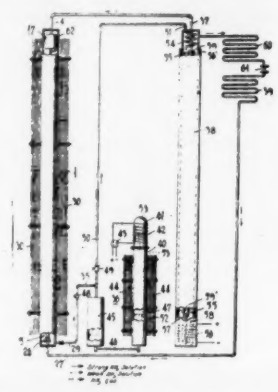
Weeks of April 15 & 22

2,238,074. REFRIGERATING APPARATUS. Arthur J. Pedigo, Cookeville, Tenn. Application April 8, 1939, Serial No. 266,831. 6 Claims. (Cl. 62—89.)



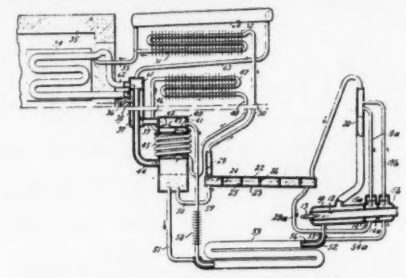
1. A refrigerating apparatus comprising a case, the lower portion of the case constituting a food chamber, a door for permitting access within the food chamber, a box within the upper portion of the case, a horizontally disposed grid supported by the lower portion of the box and constituting a bottom therefor, said box being adapted to contain a block of ice resting upon the grid, a second door carried by the case to permit access within the box, a door carried by the upper portion of the first door operating independently of said first door to allow access within the food chamber without opening the first door, the side walls of the box extending below the grid, a housing supported between said depending portions of the side walls, and a mechanical refrigerating unit including an absorption coil within the housing, a door for the housing readily accessible upon opening of the door in the upper portion of the door for the food chamber.

2,238,080. ABSORPTION REFRIGERATION. Mark Shoeld, Baltimore, Md. Application Oct. 15, 1937, Serial No. 169,303. 6 Claims. (Cl. 62—5.)



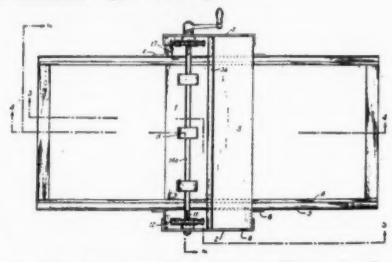
1. In an absorption refrigerator system, an absorption unit comprising a relatively narrow pipe, and a second unit comprising a relatively narrow pipe having completely within its walls generator, rectifier, and heat exchanger means, a conduit connecting the said heat exchanger means to the said absorption unit, the said heat exchanger means providing for the passage of liquid within the latter pipe from the said generator means to said conduit in heat exchange relation, within the latter pipe, to liquid and gas present in the said rectifier means, and the said absorption unit having completely within its walls and extending substantially along its longitudinal axis a mixing tube for the gas and liquid employed in the system and also extending substantially along the said axis through one end of the said absorption unit an inlet tube having automatic valve means adjacent the inner end of the said inlet tube for automatically controlling the flow of liquid through the said heat exchanger means from the said generator means into the said absorption unit.

2,238,138. REFRIGERATION. Robert S. Taylor, Evansville, Ind., assignor to Servel, Inc., New York, N. Y., a corporation of Delaware. Original application May 12, 1939, Serial No. 273,195. Divided and this application April 24, 1940, Serial No. 331,290. 3 Claims. (Cl. 62—119.5.)



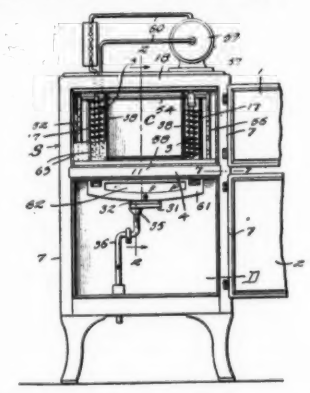
1. In an absorption refrigerating apparatus, a generator including a plurality of vapor liquid lifts, an analyzer, an absorber, means for conducting weak absorption liquid from said generator to said absorber, means for conducting a portion of the strong absorption liquid from said absorber in heat exchange relation with said weak absorption liquid to one of said lifts, means for conducting another portion of said weak absorption liquid from said absorber to said analyzer, means for conducting liquid from said analyzer to another of said lifts, and means for conducting vapor from said generator to said analyzer.

2,238,251. AIR FILTER LOADER. Verner Dahlman, Louisville, Ky., assignor to American Air Filter Co., Inc., Louisville, Ky., a corporation of Delaware. Application Jan. 31, 1940, Serial No. 316,597. 9 Claims. (Cl. 93—1.)



1. An improvement in air-filter loaders of the type composed of a frame having a loading area through which a corrugated filter-medium support passes with its crests and valleys extending sequentially in the line of motion, comprising: a carrier movably mounted on said frame; a blade-like element pivotally depending from said carrier in free swinging relation thereto; means for moving said carrier to direct said element downwardly into and upwardly out of a valley in said loading area for pressing an interposed filter medium into conformation with said valley; and means for directing the lower end of said element as it moves downwardly into a valley.

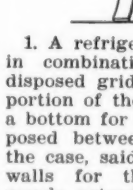
2,238,284. REFRIGERATING APPARATUS. Arthur J. Pedigo, Cookeville, Tenn. Application May 21, 1938, Serial No. 209,333. 10 Claims. (Cl. 62—89.)



1. A refrigerating apparatus comprising, in combination, a case, a horizontally disposed grid supported within the upper portion of the case, said grid constituting a bottom for an ice chamber, panels interposed between the grid and the top of the case, said panels constituting the side walls for the ice chamber, additional panels extending upwardly from the grid and positioned between the first named panels and the side walls of the case, said second named panels terminating below the top of the case, a mechanical refrigerating unit including absorption elements within the space between the panels at each side of the ice chamber, a perforated plate supported within the case below the grid, the grid providing means to form the lower portion of an ice block within the ice chamber into depending columns, said columns contacting with the perforated plate as they pass down through the grid, and a draining means within the case underlying the perforated plate.

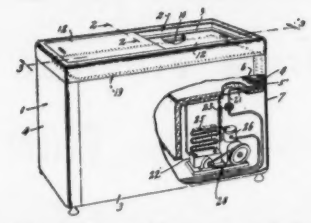
2,238,416. REFRIGERATOR CABINET CONSTRUCTION. Harry C. Foster, Connersville, Ind., assignor, by mesne assignments, to Reconstruction Finance Corp., Chicago, Ill., a corporation of the United States. Application July 31, 1937, Serial No. 156,818. 7 Claims. (Cl. 220—9.)

7. As an article of manufacture, a breaker strip for use in refrigerator cabinet construction having secured to one side thereof a locking clip comprised of spring wire and having a substantially rigid U-shaped portion projected laterally toward one side of the strip and oppositely projected resilient spring legs terminating in free ends bent at an angle with respect to said spring legs, the clip being secured to the breaker strip at a point intermediate said U-shaped portion and said spring legs.



2,238,511. REFRIGERATED CABINET. Curtis H. Thaxter, Los Angeles, Calif. Application March 12, 1940, Serial No. 323,539. 7 Claims. (Cl. 62—89.)

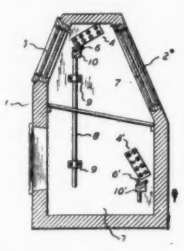
1. A refrigerating cabinet including walls defining a food storage space and an opening for affording access to said space, tracks carried by the edges of said opening, a door slidably carried on said tracks for closing said opening, means



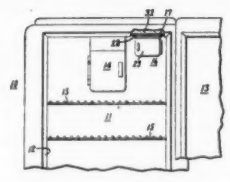
for refrigerating said space and heating means for causing a rise in temperature substantially confined to said tracks, the heating capacity of the heating means being so related to the capacity of the refrigerating means and the heating means being so mounted that said tracks may be maintained at a temperature such as to prevent the formation of an ice bond between said door and tracks without appreciably disturbing the low temperature normally produced by said refrigerating means.

2,238,543. REFRIGERATOR DISPLAY CASE, OR MEAT COOLER. Henry E. Trotter, Fort Worth, Tex. Application May 22, 1939, Serial No. 275,013. 3 Claims. (Cl. 62—89.6.)

1. In a refrigerator display case having a coil installation including a series of rectangular fins arranged obliquely with respect to the transverse plane of the said case and a trough therebeneath, a vertically adjustable drain attached to the wall of the said case, a receptacle attached to and opening into the upper end of the said drain and a support forming a relatively short trough attached to the said receptacle for receiving and supporting the first named trough.

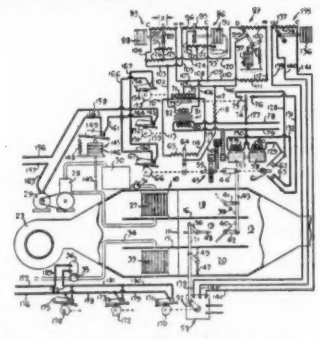


2,238,635. REFRIGERATOR CABINET. James L. Fletcher, Schenectady, N. Y., assignor to General Electric Co., a corporation of New York. Application Dec. 13, 1938, Serial No. 245,453. 8 Claims. (Cl. 62—1.)



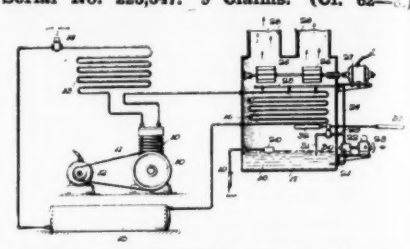
1. In combination with a refrigerator provided with walls defining a compartment and having a cooling unit associated therewith, a food storage receptacle arranged in the upper portion of said compartment and supported by a wall thereof, a substantial portion of the exterior surfaces of said receptacle presented towards said cooling unit and the interior of said compartment having a relatively high coefficient of reflection of radiant heat to impede heat transfer between said receptacle and the walls of said compartment, bodies stored in the compartment, and the cooling unit therein.

2,238,689. AIR CONDITIONING SYSTEM. James S. Locke, Minneapolis, Minn., assignor to Minneapolis-Honeywell Regulator Co., Minneapolis, Minn., a corporation of Delaware. Application March 13, 1937, Serial No. 130,706. 15 Claims. (Cl. 257—3.)



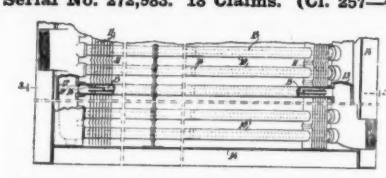
1. In an air conditioning system, the combination of an air conditioning chamber divided into three parallel passages for conditioning air for a space, means for circulating air through the three passages and to the space to be conditioned, heating means in one of said passages, cooling means in another of said passages, the remaining passage forming a by-pass passage, damper means controlling the flow of air through the by-pass passage and the passage containing the heating means, the arrangement being such that as the flow of air through the passage containing the heating means is increased the flow of air through the by-pass passage is decreased, damper means controlling the flow of air through the by-pass passage and the passage containing the cooling means, the arrangement being such that as the flow of air through the passage containing the cooling means is increased the flow of air through the by-pass passage is decreased and means for maintaining the space temperature at desired values comprising means for controlling both damper means in accordance with space temperature to properly proportion the flow of air through the passages.

2,238,808. REFRIGERATING SYSTEM. John E. Dube and Norman W. Barnes, Knoxville, Tenn., assignors to The Fulton Sylphon Co., Knoxville, Tenn., a corporation of Delaware. Application Aug. 5, 1938, Serial No. 223,347. 9 Claims. (Cl. 62—3.)



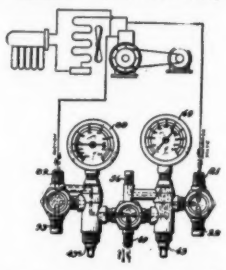
2. In a refrigerating system, in combination with the compressor thereof and an evaporative condenser in communication with said compressor and including means for circulating cooling water to and from a spray and a sump, a by-pass in said circulating system for returning water to the sump without passing through said spray, a valve in said by-pass for varying the quantity of water flowing through said by-pass and therefore said spray, and thermostatically operated means for operating said valve to increase the by-pass flow upon decrease in load on said refrigerating system.

2,238,952. NONFREEZING HEATER. Alfred E. Stacey, Jr., Essex Fells, N. J., assignor to Buensod-Stacey Air Conditioning, Inc., New York, N. Y., a corporation of Delaware. Application May 11, 1939, Serial No. 272,983. 18 Claims. (Cl. 257—46.)



1. A heat exchange device comprising a main heat transfer conduit over which a medium to be heated may be passed, such main conduit being adapted for open communication at one of its ends with a source of steam and at its other end with a condensate drain; and a smaller conduit disposed within the larger one, such smaller conduit being open at both of its ends, and being adapted to provide a substantially unrestricted path for steam through that part of the main tube wherein freezing of condensate is liable to occur.

2,238,958. REFRIGERANT TESTING DEVICE. Weaver R. Wells, Trinidad, Colo. Application Feb. 23, 1939, Serial No. 257,849. 4 Claims. (Cl. 73—151.)



1. In a testing device for refrigerating systems or the like, in combination, a body, a valve chamber formed in said body, a second valve chamber formed in said body and spaced apart from said first chamber, a high pressure gauge on said body communicating with said first valve chamber, a low pressure gauge on said body communicating with said second valve chamber, an observing chamber in said body permanently communicating with said first valve chamber, at least one fitting on said body communicating with said observing chamber, a second

(Concluded on Page 15, Column 1)

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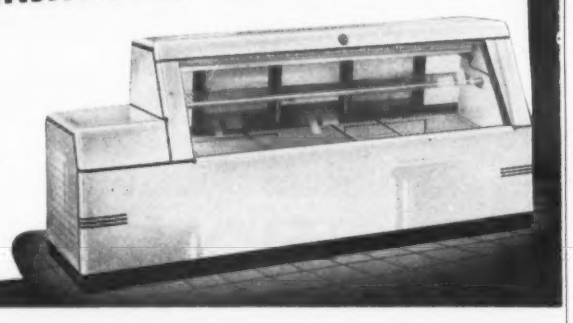

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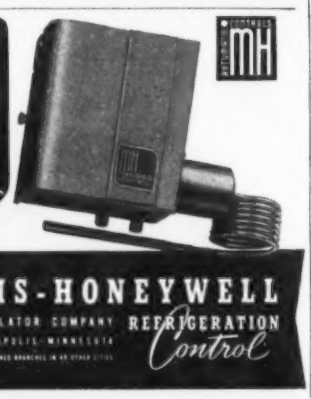

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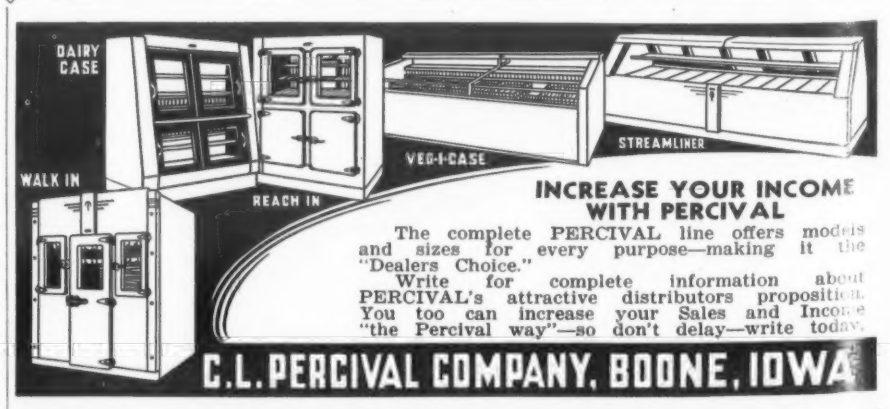

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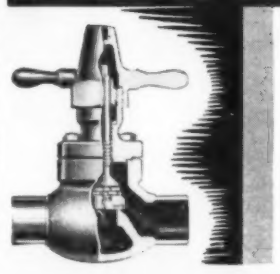

NON-FERROUS ALLOY MEETS GOVERNMENT SPECIFICATIONS

Solder connections machined directly in valve body. Has patented rotating self-aligning tapered stem-disc. Resilient packing. Valve is back-seating, permitting repacking under pressure. Wing cap can be inverted and its socket used to operate valve Cap sealing on bonnet provides additional protection against leaks. Unrestricted flow

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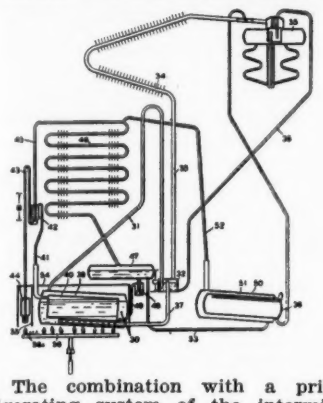
CHICAGO, ILLINOIS

Patents (Cont.)

(Concluded from Page 14, Column 5)

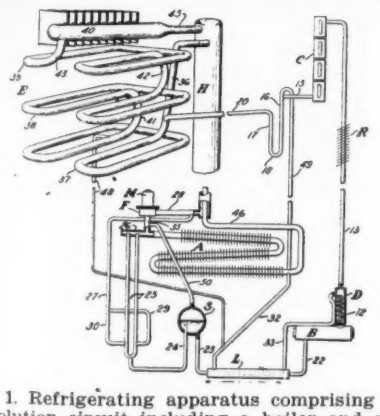
observing chamber in said body permanently communicating with said second valve chamber, a second fitting on said body communicating with said second observing chamber, a third observing chamber in said body having a passage extending therefrom to said first valve chamber and a second passage extending therefrom to said second valve chamber, a third fitting on said body communicating with said third observing chamber, a valve in said first valve chamber adapted in one position to isolate its chamber from said high pressure gauge and adapted in another position to isolate its chamber from said third observing chamber, a valve in said second valve chamber adapted in one position to isolate its chamber from said low pressure gauge and adapted in another position to isolate its chamber from said third observing chamber, a fitting on said body communicating with said high pressure gauge, and a fitting on said body communicating with said low pressure gauge.

2,239,019. ABSORPTION TYPE REFRIGERATING SYSTEM. Eric H. Ryden, Bedford, and Albert C. Schickler, Beechwood, Ohio, assignors to The Bryant Heater Co., Cleveland, Ohio, a corporation of Ohio. Application Aug. 12, 1938, Serial No. 224,458. 9 Claims. (Cl. 62—118.)



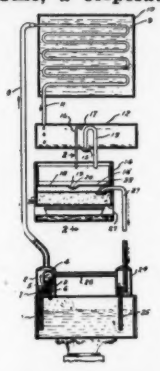
1. The combination with a primary refrigerating system of the intermittent absorption type including generator-absorber and condenser elements in circulatory communication with each other, of a secondary cooling system including a condenser member and two evaporator members both in closed circulatory communication with said condenser member and independent of communication with the primary refrigerating system, one of said evaporator members being in heat transfer relation with the said generator-absorber element and the other with the said condenser element, and means whereby the generator-absorber-cooling evaporator member is effective during only the refrigerating phase of the cycle.

2,239,141. REFRIGERATION. Justice H. Beach, Canton, Ohio, assignor to The Hoover Co., North Canton, Ohio, a corporation of Ohio. Application July 20, 1938, Serial No. 220,204. 6 Claims. (Cl. 62—119.5.)



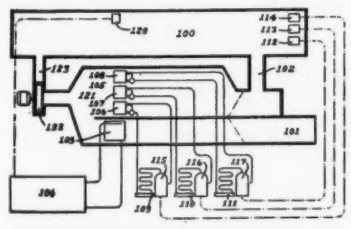
1. Refrigerating apparatus comprising a solution circuit including a boiler and an absorber, a pressure equalizing medium circuit including an evaporator and said absorber, means for producing flow of the pressure equalizing medium in said circuit, said pressure equalizing medium flow producing means being arranged to propel the pressure equalizing medium through said evaporator with a velocity sufficient to drag the refrigerant liquid through said evaporator, means for supplying refrigerant vapor generated in said boiler to said evaporator in liquid phase including a liquid pressure balancing means, and means venting the boiler side of said pressure balancing means to a low pressure portion of the apparatus.

2,239,178. REFRIGERATING APPARATUS. John A. Conrady, Cincinnati, Ohio, assignor to The Crosley Corp., Cincinnati, Ohio, a corporation of Ohio. Application March 10, 1937, Serial No. 130,136. 6 Claims. (Cl. 62—118.)



1. In refrigeration apparatus of the intermittent absorption type in combination with the evaporator, a shell spaced from the lower wall of said evaporator forming a secondary evaporator; and a drip opening at a low point in said shell to permit the gravity flow of condensed refrigerant from above said shell into said secondary evaporator.

2,239,190. AIR CONDITIONING METHOD AND APPARATUS. Jewel C. Chambers, Dayton, Ohio, assignor, by mesne assignments, to General Motors Corp., a corporation of Delaware. Application Dec. 1, 1933, Serial No. 700,452. 4 Claims. (Cl. 62—6.)

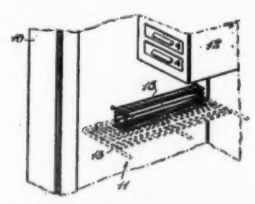


1. The method of conditioning air for an enclosure which comprises contacting a stream of air with a bank of individual heat exchange units, operating varying numbers of said units in proportion to the temperature change required, contacting another stream of air with a hygroscopic medium, controlling a hygroscopic function of said medium in accordance with relative humidity conditions within said enclosure and discharging said streams in said enclosure.

2,239,255. VENTILATING DEVICE. George Reuben Shaw, Brighton, Victoria, Australia, assignor to Chatsworth Investments Proprietary Limited, Melbourne, Victoria, Australia, a company of Victoria, Australia. Application Feb. 17, 1938, Serial No. 191,089. In Australia Feb. 25, 1937. 7 Claims. (Cl. 156—14.)

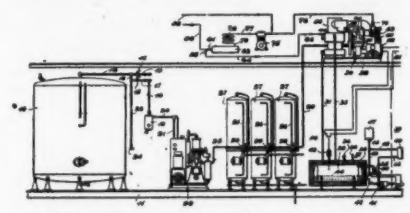
1. A ventilating device for inserting in apertures in doors, walls, and other structures, comprising a tubular member formed of resilient material, a flange formed integrally with and projecting outwardly from the outer end of the tubular member, a covering of foraminous material secured to the flanged end of the tubular member, a series of longitudinal disposed fingers formed by spaced incisions extending longitudinally from the inner end of the tubular member near to the flange thereon, said fingers having outwardly bent portions forming circumferential engaging members which converge towards the ends of the fingers and are adapted to grip the sides of an aperture when the device is thrust therein.

2,239,369. REFRIGERATOR. Carl H. Nauert, Evansville, Ind., assignor to Servel, Inc., New York, N. Y., a corporation of Delaware. Application July 22, 1937, Serial No. 155,094. 6 Claims. (Cl. 211—13.)



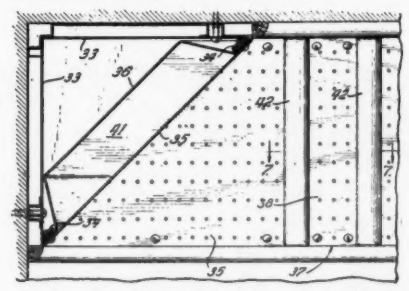
For use in a refrigerator compartment having a shelf of open construction including horizontal members spaced laterally and extending longitudinally from front to back of the compartment and one or more laterally extending members, a removable basket-like container provided with upper and lower portions, and self engaging members maintaining said upper and lower portions in spaced relation and projecting downwardly from the container and terminating in laterally extending generally hook-shaped portions adapted for interlocking engagement with said horizontal longitudinal shelf members and operating to hold the container against substantial downwardly tilting movement when the container is drawn forwardly to a pulled out position beyond the front edge of the shelf, and means also projecting downwardly from the container operating to engage one of the laterally extending shelf members and limit the pulled out position of the container.

2,239,485. REFRIGERATION APPARATUS. Louis De Markus, Blawnox, and Leon Buehler, Jr., Waynesboro, Pa., assignors to Frick Co., Waynesboro, Pa., a corporation of Pennsylvania. Application Oct. 26, 1938, Serial No. 237,100. 10 Claims. (Cl. 62—122.)



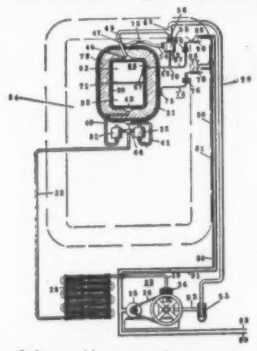
9. The process of collecting and storing gas evolved during the fermentation of beer comprising, evolving fermentation gas in a fermentation tank, compressing said evolved gas, cooling and washing said gas during its compression, effecting condensation of said cooled, washed, and compressed gas at a relatively low temperature, and evaporating said liquefied gas in accordance with the demand for said gas.

2,239,508. AIR-DISTRIBUTING APPARATUS FOR VENTILATING SYSTEMS. Edward A. Sipp, Oak Park, and Ralph L. Leadbetter, Wheaton, Ill., assignors, by mesne assignments, to Burgess Battery Co., Chicago, Ill., a corporation of Delaware. Application Dec. 15, 1938, Serial No. 245,942. 1 Claim. (Cl. 98—40.)



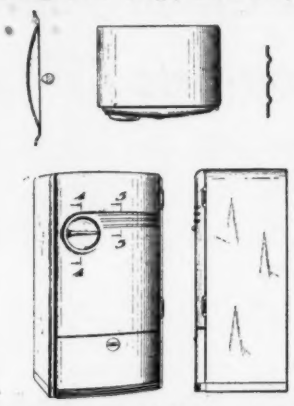
In a ventilating system for an enclosure, a duct of right-triangular cross section arranged at the ceiling and wall juncture of the enclosure with the hypothenuse side thereof exposed to the enclosure, said hypothenuse side of said duct comprising a facing panel exposed to said enclosure and having a multiplicity of apertures distributed therein, a channel member of imperforate sheet material extending lengthwise of said duct and engaging said facing panel and enclosing a space between said channel and said facing panel, said channel having openings in its web portion at spaced intervals along the length of said duct, means for continuously supplying ventilating air to said duct, and a filter-diffuser cartridge arranged at said opening in said channel whereby air passing from said duct into the space between said channel and said facing panel and thence into said enclosure is caused to pass through said filter-diffuser cartridge, said facing panel having removable sections opposite said openings in said channel, each of said removable sections having a cartridge-supporting frame attached thereto including filter-diffuser cartridge retaining elements, each of said filter-diffuser cartridges reposing in one of said frames and being removable with said removable section.

2,239,583. REFRIGERATING SYSTEM. Warren H. F. Schmieding, Columbus, Ohio. Application July 7, 1938, Serial No. 217,873. 20 Claims. (Cl. 62—116.)

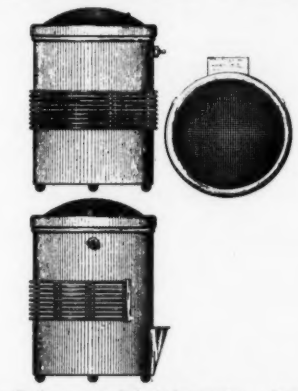


1. A refrigerating system comprising in combination, a plurality of heat absorbers, one of which provides a relatively low temperature for freezing and storing frozen products and another provides a relatively higher temperature for maintaining products above freezing temperature, a heat dissipator associated with the heat absorbers for removing heat from the latter including a fluid conduit continuously open while the heat dissipator is operating for the circulation of refrigerant through the second mentioned heat absorber, means responsive to a temperature slightly above 32° F. of the environment affected by the first mentioned heat absorber for varying the rate of removal of heat units from the first mentioned heat absorber.

126,701. DESIGN FOR A REFRIGERATOR CABINET. Richard B. Janes, Greenville, Mich., assignor to Gibson Electric Refrigerator Corp., Greenville, Mich., a corporation of Michigan. Application Feb. 10, 1941, Serial No. 98,870. Term of patent 7 years.



126,707. DESIGN FOR AN AIR CONDITIONER. William A. Norris, Alhambra, Calif., assignor to William H. Fabry and Rae H. Fabry, as joint tenants. Application Jan. 17, 1941, Serial No. 98,157. Term of patent 14 years.



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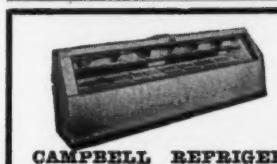
GOSHEN, INDIANA



Dealers Wanted for Midwestern and Southern States
CAMPBELL REFRIGERATOR CO.
Milwaukee, Wis.

TIE UP WITH US FOR REFRIGERATION AND AIR CONDITIONING PARTS AND SUPPLIES!
WRITE FOR LATEST CATALOG ON YOUR LETTERHEAD. WHOLESALE ONLY

THE HARRY ALTER CO.
1728 S. MICHIGAN AVENUE, CHICAGO, ILLINOIS
3 CHICAGO BRANCHES, NORTH, WEST, SOUTH
NEW YORK BROOKLYN BRONX JAMAICA
NEWARK DETROIT CLEVELAND ST. LOUIS

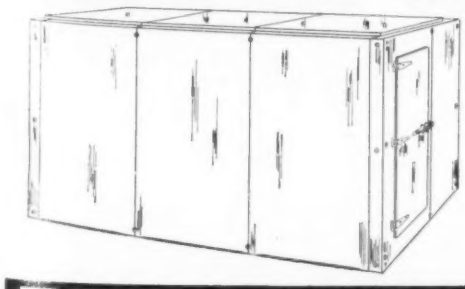
YES SIR! THIS *Sherer* LINE IS A PROFIT MAKER
I'm satisfied with it in every respect!

"I changed over to the Sherer line a year ago and have never regretted it for one minute," says one Sherer producer. You, too, can make sure of *your* share of 1941's extra business by selling Sherer's complete line of display and storage refrigerators, backed by closely-knit factory cooperation.

Write today for complete franchise details concerning the Sherer line.

Sherer-Gillett Co. MARSHALL, MICH.

'ARMOR-CLAD' WALK-IN COOLER



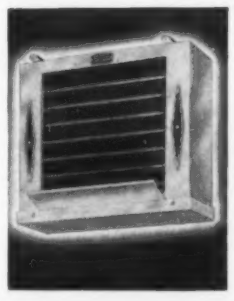
★ALL STEEL EXTERIOR
★LOW IN COST
(Due to volume production)
★REAL FLEXIBILITY
(Easily enlarged by adding sections)
★EASY TO ERECT
(2 unskilled workmen sufficient)
★SMALL STANDARD-SIZE SECTIONS
(Portable and easy to handle)
★UNLIMITED RANGE OF SIZES
★PROMPT SHIPMENT

FOGEL REFRIGERATOR COMPANY Since 1899
Philadelphia, Penna.

Fan Blades and Blower Wheels
by TORRINGTON

THE TORRINGTON MANUFACTURING CO. of TORRINGTON, CONNECTICUT

BUNDY TUBING
ENGINEERED TO YOUR EXPECTATIONS
BUNDY TUBING CO., DETROIT



Humi-Temp Units by LARKIN

● Its wide popularity is backed by a company that strives for perfection. Investigate now, and see for yourself. See your jobber or write today.
LARKIN COILS, INC.
519 Memorial Dr., S.E., Atlanta, Ga.

Originators of The Cross Fin Coil

Dealers Should Tighten Credit Policies Now, Advises G-E Contracts Official

(Concluded from Page 1, Column 3)
improving tremendously, and that we are now experiencing a period of prosperity. According to recent U. S. Department of Commerce reports, the total national income has increased nearly 10% over last year. More people are employed and the average weekly rate of pay well exceeds the boom days of 1929.

"This means that not only has the potential market for appliances expanded, but also the average purchaser possesses far more purchasing power than heretofore.

"How that power is exercised is important to all of us. The purchaser must be guided in a judicial manner in the exercise of this purchasing power in order that he may be in a position to receive more liberal credit consideration in the future when conditions may be less favorable than they are today.

"One of the major problems confronting government leaders and business men generally is how to plan for the readjustment period which is certain to follow the termination of the national defense program.

"As you no doubt will recall, instalment terms were liberalized during the early depression years to enlarge the market for appliances. Such terms had a stimulating effect on business and have, we believe, contributed much to the improved business which we are now enjoying. However, in view of the rapid change in conditions, we feel that we should strongly recommend that sales be made on more conservative terms in recognition of the recession, whether it be great or small, which in all probability will follow this period of prosperity.

"We firmly believe that it is your responsibility as well as ours to help prevent an over-extension of credit to the prospective purchaser who finds himself in a position today to make higher down payments and larger monthly instalments.

"It has been definitely established that more conservative terms mean greatly reduced repossession losses. Substantial equities built up prior to a recession of business will preclude heavy repossessions with resulting loss to the purchaser, the dealer, distributor, and ourselves.

"Our interest, of course, lies particularly in preventing disastrous chargebacks to dealers which would reduce or wipe out their investments and probably remove them as experienced sales outlets. We are firmly convinced that much of the dealer losses suffered in 1938 and 1939 would have been avoided if 1937 sales had been on a more conservative basis.

"The General Electric Contracts Corp. is making a determined effort to improve terms on appliance sales. They feel that it is desirable and possible to keep the maximum terms of major appliances well within 30 months with down payments running considerably in excess of minimum requirements.

C. G. SMITH

Manager, Credits and Collections"

Commenting upon this letter, a bulletin from A. Wayne Merriam, Inc., veteran G-E distributorship in Schenectady, N. Y., points out the following:

"Repossession statistics show that for **each** repossession on contracts written for 12 months or less, there are two repossessions on those written for 13 to 24 months, four repossessions for those written for 25 to 30 months, and eight repossessions for those written for more than 30 months.

"In other words, one out of every five contracts written for over 30 months will be repossessed, one out of every 10 written for 25 to 30 months will be repossessed, one out of 20 written for 13 to 24 months will be repossessed, and one of every 40 written for 12 months or less will be repossessed."

March Sales Break All Records

(Concluded from Page 1, Column 5)
Manufacturers Association totaled 412,099 units during March, as compared with 291,999 in the same month of 1940. For the year's first three months, world shipments by Nema members aggregated 1,122,994 units, as compared with 795,187 in last year's first quarter.

Nema shipments to distributors and dealers in the United States alone totaled 393,425 during March, to bring the total for the first three months of the year to 1,076,661 units. Shipments to Canadian outlets totaled 14,458 units for the three months, and foreign shipments during the period were 31,875 units.

80% WERE 6 FOOT

Demand for 6-foot cabinets during the first three months of this year accounted for almost 80% of the total for all models, shipments including 819,779 lacquer and 45,730 porcelain cabinets in this size class. Eight-foot cabinets were the next most popular size, accounting for about 9% of the total shipments, while 7-foot units, a new feature in several lines this year, rose to third position, with about 7% of the total.

The "sevens" this year appear to have replaced the 5-foot units in comparative popularity, for these units now account for less than 1% of all shipments, whereas in 1940 they represented about 8% of the total.

Nema March Sales Total 412,099 Units

SALES FOR MARCH, 1941

	Domestic	Canadian	Other Foreign	Total World
Lacquer (Ext.) Cabinets Complete				
1. Less than 4 cu. ft.	1,806	33	673	2,512
2. 4 to 4.99 cu. ft.	15,196	1,057†	3,461	19,714
3. 5 to 5.99 cu. ft.	2,663	268	29	2,960
4. 6 to 6.99 cu. ft.	288,022	4,349†	5,762	298,133
5. 7 to 7.99 cu. ft.	23,835	...	544	24,379
6. 8 to 8.99 cu. ft.	30,352	128	623	31,103
7. 9 to 12.99 cu. ft.	10,445	...	338	10,783
8. 13 cu. ft. and up	18	...	5	23
9. Total Lacquer	372,337	5,835	11,435	389,607
Porcelain (Ext.) Cabinets Complete				
10. Less than 5 cu. ft.	...	...	...	...
11. 5 to 5.99 cu. ft.	160	...	1	161
12. 6 to 6.99 cu. ft.	17,887	4	631	18,522
13. 7 to 7.99 cu. ft.	867	...	70	937
14. 8 to 8.99 cu. ft.	736	1	79	816
15. 9 to 12.99 cu. ft.	925	...	158	1,083
16. 13 cu. ft. and up	513	...	63	576
17. Total Porcelain	21,088	5	1,002	22,095
18. Total—Lines 9 and 17	393,425	5,840	12,437	411,702
19. Separate Systems, ¼ Hp. or Less	...	...	397	397
20. Total Household Equipment	393,425	5,840	12,834	412,099
Value Index*	191.0	279.0	108.0	187.0

*Based on weighted sales for 1934, 1935, and 1936. †Includes sales and credits.

Gale Uses Rubber Trays To Meet Priorities

(Concluded from Page 1, Column 1)
in models GR-650 and GR-652, and an increase in the ice capacity of the latter model from 4 to 8.4 lbs., with two aluminum and two rubber trays as standard.

Dealers who have refrigerators in stock without a full complement of ice trays may obtain the substitute trays for these models at a cost of 65 cents each.

The new "free cube" trays, of latex rubber, have a chrome band under them to act as a carrier and make the trays rigid when filled. The latex rubber is claimed to be taste-free and odorless. Ice cubes may be released either singly or by the tray-full, it is said.

N. Y. Governor Signs Instalment Bill

ALBANY, N. Y.—Governor Herbert Lehman has signed the bill protecting persons in the federal military and naval service and their families from "oppressive and untimely enforcement of civil liabilities."

It provides that refrigerators, appliances, and equipment, as well as automobiles, furniture, and other personal property, purchased on the instalment plan, cannot be repossessed without court permission.

★ ★ ★ ★ ★ ★ ★ ★ ★

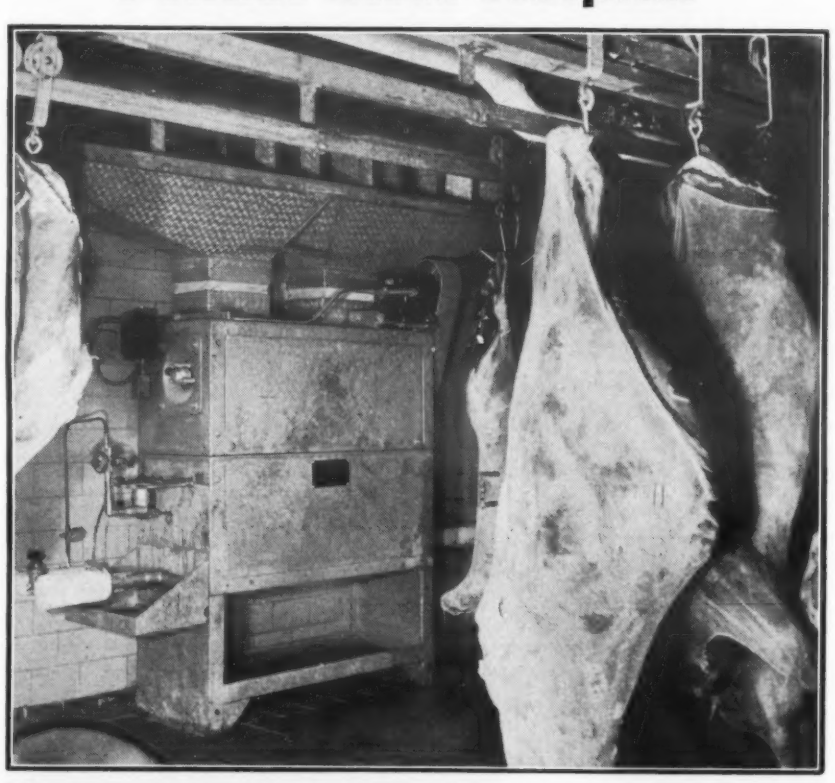
MILLS MIGHTY REFRIGERATION

Mills Condensing Units
By Mills Novelty Company
4100 Fullerton Ave., Chicago, Ill.

★ ★ ★ ★ ★ ★ ★ ★ ★

dependable valves
RESPONSIBLE
FOR FOOD PROTECTION

. . . in Michigan's Largest Low Temperature Freon Installation . . Pontiac State Hospital



At the Pontiac State Hospital . . .

60 A-P Thermostatic Expansion Valves, and 25 A-P Solenoid Valves DEPENDABLY control the largest low temperature Freon Installation in Michigan—covering every phase of Refrigeration . . . carrying much of the responsibility for effective protection of food products used in this large hospital . . . offering accurate, sensitive control of Refrigerant that compliments the efficiency of the fine equipment used.

The A-P Reputation . .

for DEPENDABILITY and RESPONSIBILITY always helps you to more business, more satisfied customers, more profit. *If you have not already proved this in your experience, try A-P Valves on your next installation.*

Part of New . . .

Refrigeration installation at Pontiac State Hospital, showing Carrier Cold Diffuser with A-P Thermostatic Expansion Valve. Plans and specifications by *J. E. Stephens Co.*, Detroit. *Contractor, P. E. Daubenspeck, Inc.*, Pontiac. *Jobber, J. E. Fischer & Sons*, Saginaw. Working drawings by *Ray Fisher*. Equipment — *Brunner and Carrier.*

★ Progressive Service Engineers use and recommend — Aggressive Jobbers stock and talk — A-P Products.

AUTOMATIC PRODUCTS COMPANY
2450 NORTH THIRTY — SECOND STREET
MILWAUKEE WISCONSIN
Export Department 100 Varick Street, New York City
A-P CONTROLS ARE DEPENDABLE

Sized for service men's convenience

• Ansul cylinders of Sulphur Dioxide and Methyl Chloride come in several sizes, but there are three that are especially useful to the service man. These are big enough to contain sufficient quantities of gas, yet small enough to be carried easily in a service truck.

THE ANSUL JOBBER NEAR YOU CAN SUPPLY THESE HANDY-SIZED CYLINDERS AT YOUR CONVENIENCE

SO_2 . . . . 25 lbs. . . . . 70 lbs. . . . 100 lbs.
CH_3Cl . . . 15 lbs. . . . . 40 lbs. . . . 60 lbs.

ANSUL
SULPHUR DIOXIDE
METHYL CHLORIDE
Agents for Kinetic's "Freon-12"

ANSUL CHEMICAL COMPANY • MARINETTE, WISCONSIN

LET THE ANSUL JOBBER NEAR YOU SERVE YOU BETTER AC-37